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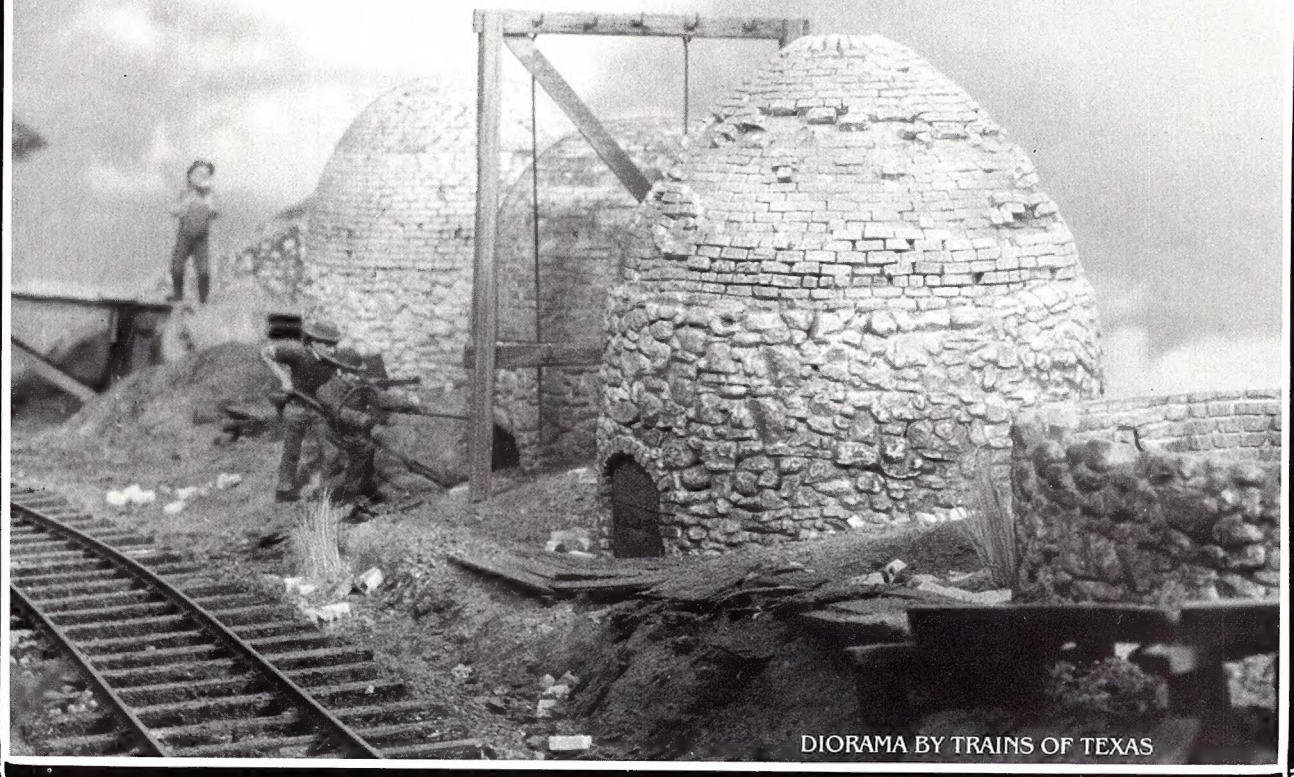

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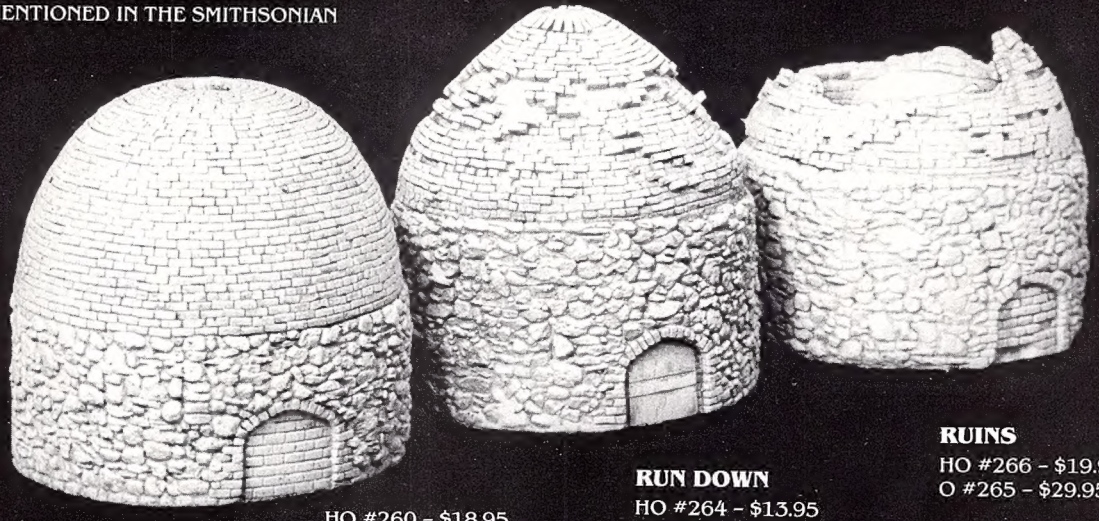

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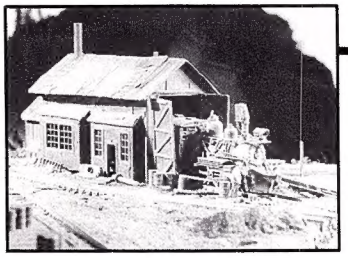
SEPTEMBER/OCTOBER 1989 VOLUME 15, NUMBER 4



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This narrow gauge painting was done by C.W. "Gus" Swanberg who calls it, "Heading Home." Two-foot gauge Wiscasset Waterville & Farmington Railroad #3 is hauling a mixed passenger train past Ford's Mill. Mr. Swanberg would like to communicate with people who are interested in his work. His address is Route 5, Box 354, Vashon, WA 98070.

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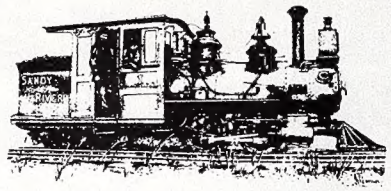

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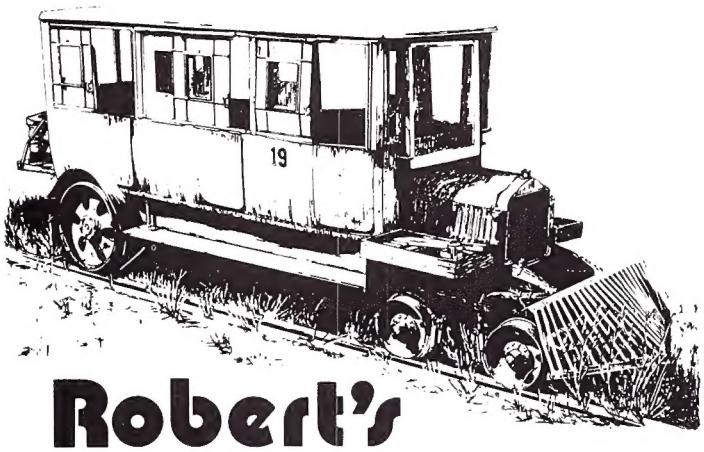

Robert's Ramblings....

Many of you have seen the 3-foot gauge caboose beside the road as you enter downtown Silver Plume, Colorado. According to an article by Deirdre Baldwin in the February 1989 issue of PEOPLE FOR SILVER PLUME, INC. newsletter:

> The last train pulled out of Silver Plume in 1939 and left the Colorado & Southern Caboose No. #1006.
>
> For many years, it sat by the Buckley Store. Then it was moved to its present location next to the small town hall.
>
> It has been painted a few times through the years, but in 1986 it was decided that major renovations were needed.

The late Tom Young, owner of the Charing Cross Bookstore in Silver Plume, dreamed of restoring the caboose to its original condition. Before his death in September 1987, Tom spent many hours researching the caboose and working on it. Although Tom never saw his dream realized, his many friends want to see #1006 completed. In August 1988 People for Silver Plume, Inc. set up a memorial fund in Tom's name to complete the restoration of #1006. Send contributions designated "Caboose Fund" to People for Silver Plume, Box 935, Silver Plume, CO 80476. I want to thank Tom's mother, Louise Burke, who provided the photo, and Deirdre Baldwin of the PEOPLE FOR SILVER PLUME, INC. NEWSLETTER who took it and who wrote the article from which much of this information was extracted.

Colorado & Southern Caboose #1006 as she looked in February, 1989. *Photo by Deirdre Baldwin.*

The Huckleberry Railroad in Flint, Michigan, has completed its restoration of Denver & Rio Grande Western K-27 #464. Michael Allen, co-chairman of the railfan volunteers' committee, sent in the photo that shows the second or third run of the engine. (The first run was made after dark so no photos could be taken.) The Huckleberry Railroad is laid on the old Flint & Pere Marquette Railroad's Fostoria branch. This line was abandoned in 1975, and purchased by the Genesee County Parks and Recreation Commission who converted it to 3-foot gauge by moving one rail over. There are several other steam locomotives on the line such as ex-Alaska Engineering Commission #162, now HRR #2, and a 1920 Baldwin 4-6-0. There are both Denver & Rio Grande Western and Rio Grande Southern passenger cars on the line. It's great to see this beautiful K-27 so well cared for.

Denver & Rio Grande Western K-27 #464 on June 6, 1989. *Photo by Daniel Mitchell.*

I recently saw a program on our local public broadcasting system television channel called "The Romance of India's Railways." In this program an abandoned, but still intact, monorail was shown. The narration noted that the monorail had been abandoned for the last 47 years, but did operate for some 27 years. Several engines were shown in a shed, and the track was shown in place, but covered with dust. According to the program, the line was built by Orenstein-Arthur Koppel and ran on one rail laid on the ground – the equipment was steadied by flat-rimmed outrigger wheels running along the ground on either side of the line. It seems these wheels created ditches that eventually led to the downfall of the railway.

I would like information on this line. Was it the only monorail built by Orenstein-Arthur Koppel? Does anyone have one of their catalogs that shows this system? Can anyone direct me to any books, catalogs, or other materials on this line? After all, who knows, maybe my Tuolumne Forks will someday sport its own Orenstein-Arthur Koppel monorail.

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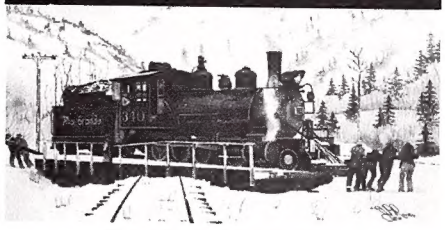

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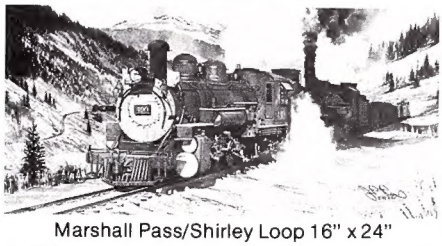

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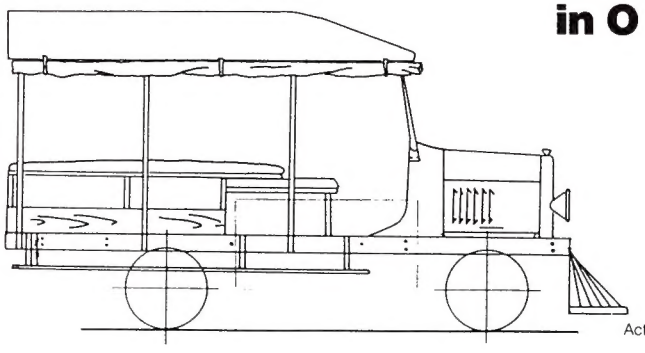

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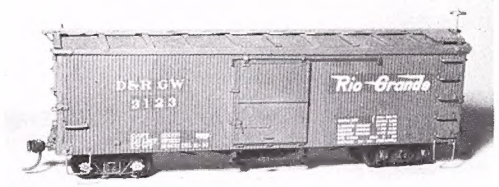

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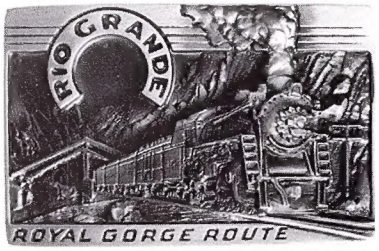

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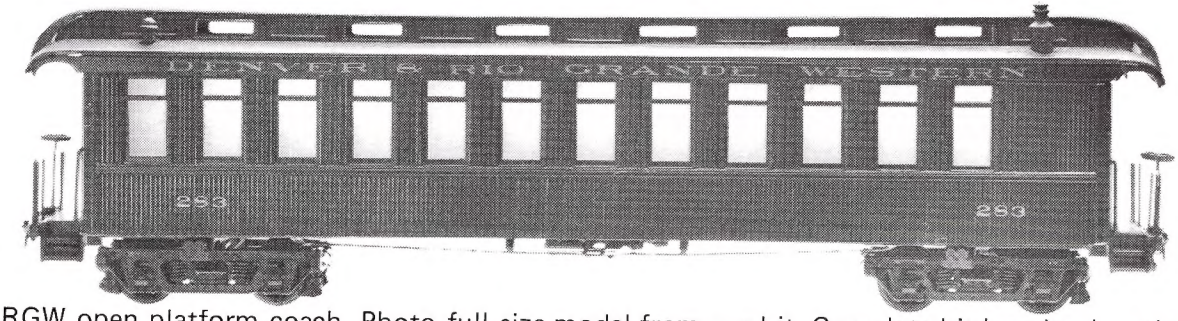

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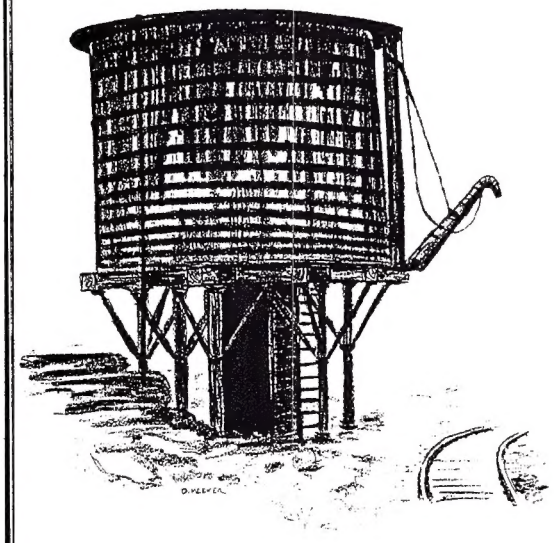

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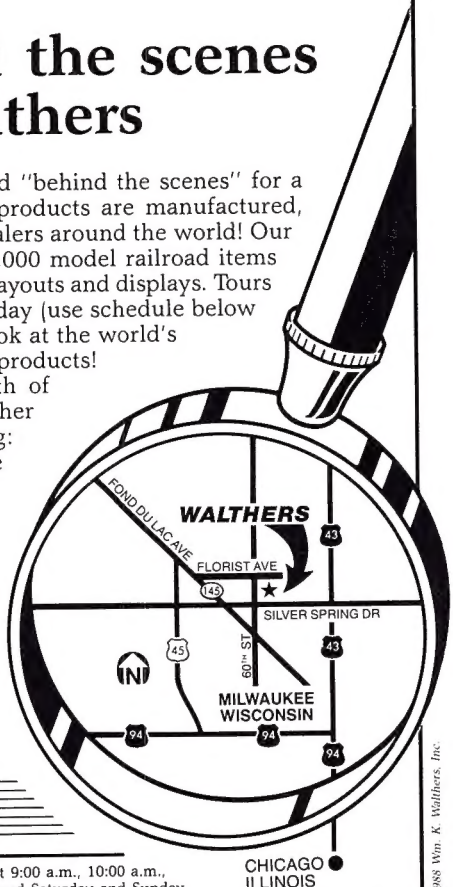

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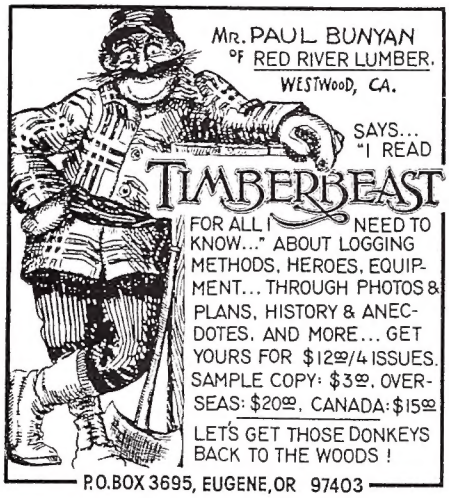
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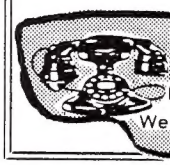

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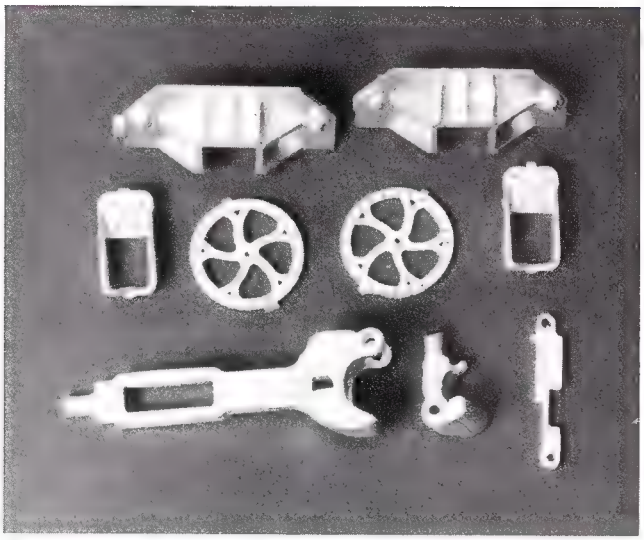
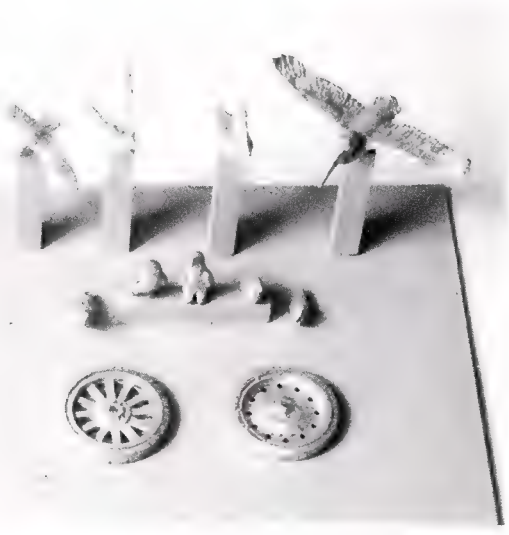


Precision Scale Company, 1120-A Gum St., Woodland, CA 95695 has several new ½-inch scale lost wax brass parts for sale. A pair of 15-inch D&RGW brake wheels sells for $3.25, D&RGW upper staff brackets and pawl's are $4.50 a pair, four D&RGW lower staff brackets are $3.50, WABCO retainer valves are $2.00 a pair, a pair of D&RGW 3000 series boxcar coupler pockets is $6.50, and a beautiful pair of working knuckle couplers with spring-loaded shanks is $8.75. *Bob Brown.*

Bill Roy, McKenzie Iron & Steel Co., P.O. Box 3695, Eugene, OR 97403 has some new O scale white metal detail parts ready. You can get a pair of pelicans for $2.50, two American Bald Eagles for $2.50, and five seagulls for $2.50. Or you can get an Audubon pack of all three sets of birds for $7.00. Roy also has a set of four steel wheels and a set of four wooden wheels for $4.50 a set. Please add 50 cents shipping for each set of detail parts. Keep 'em coming, Roy. *Bob Brown.*



Depot G Hobbies, O S 371 Florida Lane., Winfield, IL 60190 has four new Florence & Cripple Creek cars available. They were produced just for Depot G by Delton – a red or green boxcar sells for $69.00, a reefer for $75.00, and a Victor Gold Mining gondola for $55.00. There is also a pair of Colorado & Southern gondolas with block C&S lettering for $52.00 each. *Bob Brown.*

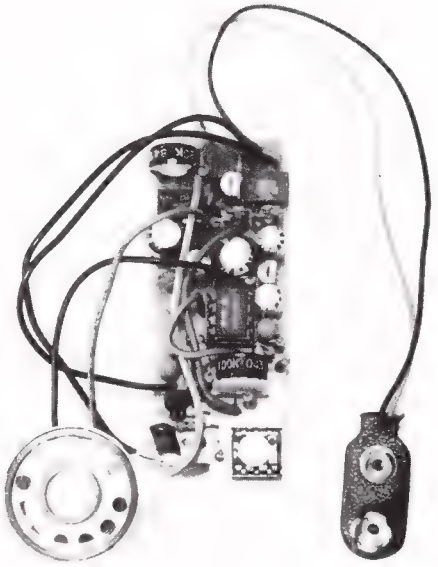
Overland Models, Inc., 5908 Kilgore Ave., Muncie, IN 47304 has made modeling the 2-foot gauge Gilpin Tram line easy with their new On2 Gilpin Shay. With this engine, a string of Grandt Line Gilpin ore cars, and a Trains of Texas Gilpin caboose, you would have all you need for equipment. You will need to build some scenery since the prototype ran in the Central City area of Colorado's Clear Creek region, and served many mines via switchbacks and steep grades. Overland's Gilpin Shay is a lovely engine and has all the detail one has come to expect from this fine company. My sample ran well and would look great pulling those little ore cars around a Gilpin layout. Maybe someday I'll build one. *Bob Brown.*

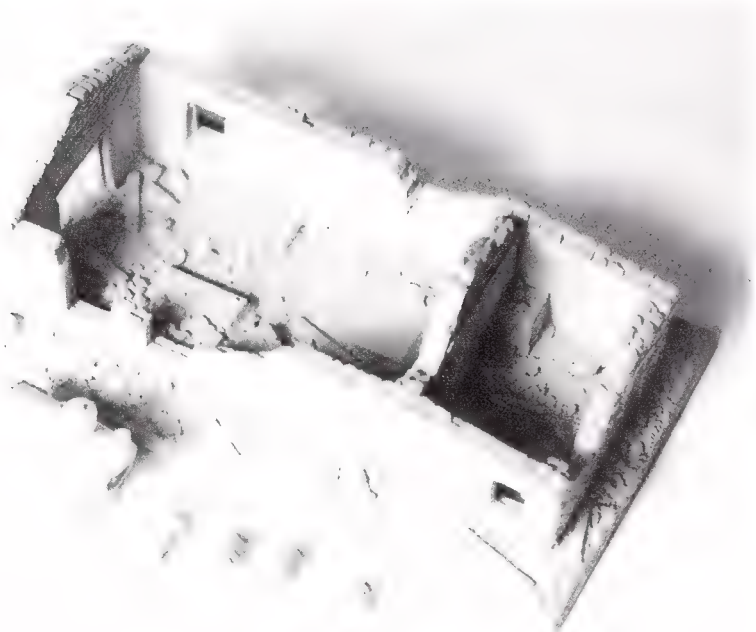
Russ Simpson, 1968 Cemetery Rd., Placerville, CA 95667 has a new ½-inch scale Carter Brothers' flatcar kit available. My kit built up into a beautiful scale model of the prototype 28-foot South Pacific Coast flatcar, a simple car with no air brakes – the kit has full hand brake detail. The wood parts of the kit are pre-cut pine. The ends of the truss rod beams and the body bolsters have to be cut to shape. The body details are either styrene injection moldings or white metal castings. The car comes with Carter Brothers' trucks, and you can order it in either correct 3-foot gauge or 3 foot 6 inch (G) gauge. Detailed link and pin couplers are included as are full-size plans and complete instructions. This was a wonderfully fun kit to assemble, and it is very impressive when completed. It sells for $75.00. *Bob Brown.*

Robins Springs & Co., Ets Marcet & Fils, Les Robins Les Noes, 42370 Renaison, France. I have not seen these models but feel you should be aware of them. The photo shows a G Gauge Live steam Shay, log car, and caboose made by this French company. They also make lots of detail parts and other logging kits. The Shay sells for fr4500 (kit) or fr5600 ready to run (approximately $850.00 U.S.), and a caboose kit is about fr418 (approximately $60.00 U.S.). Write for a complete price list and photos. *Bob Brown.*

Kuras Design Group, 112 Point Lobos Ave., San Francisco, CA 94121. This new company is selling a set of paints under the name Rustall, that consists of a set of four 2-ounce bottles. The first, just called "Rustall," is a watery rust-colored liquid, several coats of which will make a part look rusted. The liquid from the second bottle, "Blackwash," is then washed on to bring out detail and texture. The third bottle "Dead Flat," makes sure the part has a flat finish. The fourth bottle "Dust," is actually fine dirt and is used to dust the parts for a finishing touch. I have seen paper, plastic, metal, and wood rusted with this material and it looks great. It does take many coats of Rustall to thoroughly rust a part, but it is amazing what can be done to a piece of typing paper to make it look like rusted tin. Rustall on plastic or metal is weather-resistant, and should work for garden railways. A set of four bottles and directions sell for $24.95. Dealer inquires welcome. *Bob Brown.*

Starr Enterprises, Inc. P.O. Box 170, Deerfield, IL 60015 has a quality sound system called the "Starr-Tec Chuffer." This unit is designed to fit into the tender of an HO locomotive, but it can also be placed in a car. The unit comes with a small speaker, and uses track power assisted by a 9-volt battery. I installed mine in a broken-down log car that had its own track pick-ups. The unit performed well and has a deep, throaty chuff. The volume and starting time of the chuff can be adjusted; this unit should work well for those of you who do not want the expense and complication of the major sound systems, but want your engines to chuff. The Chuffer sells for $99.95 less battery. There have been some promotional sales at $79.88. *Bob Brown.*

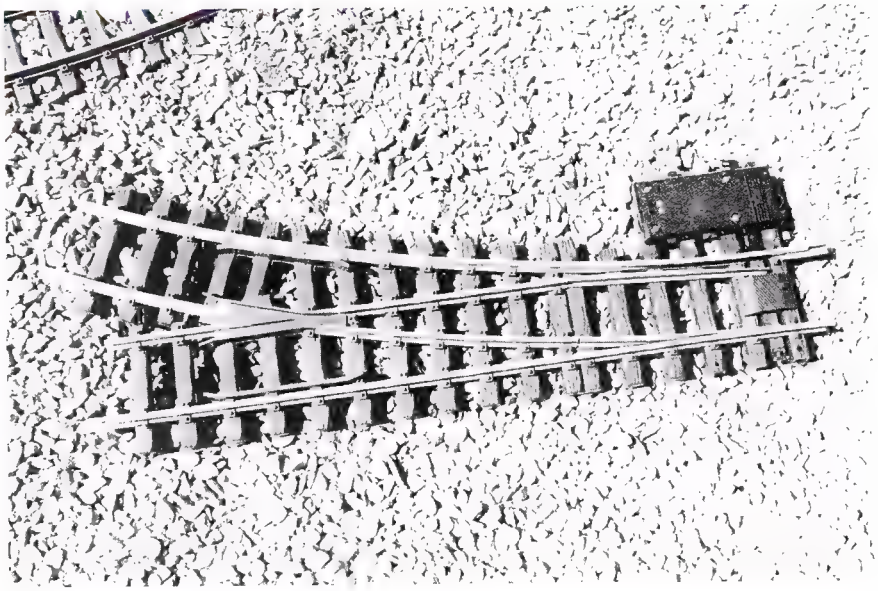




Morse Productions, 8324 Hall, Lenexa, KS 66219 has some 39 HO scale plaster detail parts available. There are sets of assorted crates and barrels as well as oil drums, stacks of ties, log cribbing, tunnel portals, a hand car shed, and several privies. MP's latest kit, High Lonesome Ruins, depicts a derelict stone mine building, like the ones found in old mining areas. Its base and walls are one-piece, cast from a mixture of Hydrocal and molding plaster – the clutter and broken pieces usually found in a ruined building are cast in place. A boiler and several crates and barrels come separately along with a complete painting guide. High Lonesome Ruins sells for $24.95 including shipping. *Bob Brown.*

The Hudson Carriage Company, 435 Kingswood Ave., Eugene, OR 97405 now has a set of four O scale horses complete with harnesses designed to be used with their set of High Wheels that I reviewed in the May 1989 issue. Each set of horses has 53 parts and sells for $27.50 including shipping. You can also buy a plain horse without the harness for $6.00 plus $2.00, or horses with harnesses and single-trees (15 pieces) for $8.00 each plus $2.00. If you order six or more, harnessed horses sell for $6.50 each (shipping included). Oxen are on the way (including yokes) for $6.00 a head or $15.00 a pair (plus shipping). *Bob Brown.*

LGB of America. Some of you may not be aware of the excellent line of LGB turnouts available. I have been using their large radius turnouts in my garden for several years now with good results. There are two different radius turnouts – the 1200 series comes with either a hand-throw or an electric switch motor, but the 1600 series comes only with an electric switch motor. However, the electric switch motors can be hand-thrown. In addition, LGB has an electric double-slip switch and an electric three-way turnout. *Bob Brown.*

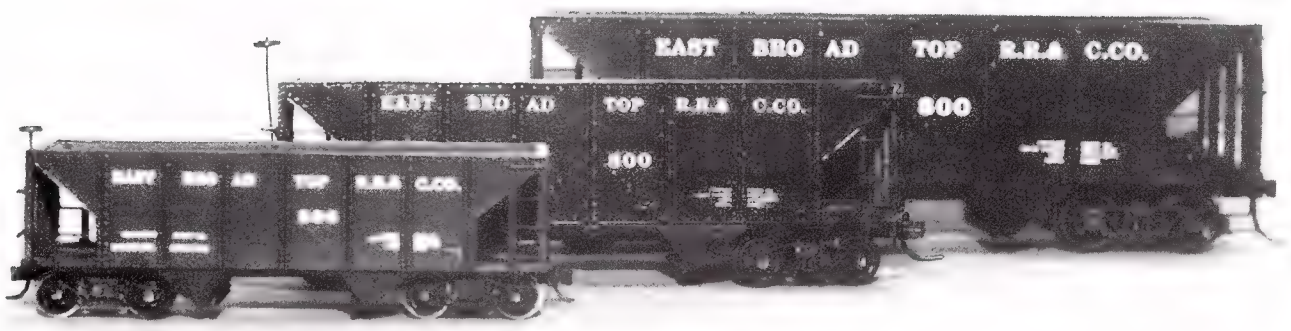


Model Die Casting, 3811 W. Rosecrans Blvd., P.O. Box 926 (Dept. G), Hawthorne, CA 90250 has a beautiful new Rio Grande Southern short caboose ready. (You can also get it lettered for the Denver & Rio Grande Western or as a Model Die Casting 50th Anniversary car.) The car comes assembled but you do have to plug in the smoke jack. This really handsome model comes with arch-bar trucks, LGB compatible loop-style couplers, and sells for $75.00 ready to run. *Bob Brown.*

Arkansas Valley Scale Models, 2105 Wolfe Lane, Fort Smith, AR 72901. I just assembled the O scale Elm Park Grocery and have installed it on my layout. The kit went together easily. Assembling this urethane kit consisted of cleaning up a little flash, washing the parts in detergent and water, and gluing them together with ACC. The windows and doors are injection moldings and needed to be spray-painted separately. I sprayed the building with gray primer, then brush-painted the final color. The kit comes with signs and other details, and made into a well-detailed building full of character. The Grocery sells for $79.95 plus $2.00. *Bob Brown.*

P-B-L, P.O. Box 749, Chama, NM 87520 has several urethane bases designed to hold paint bottles. There is one for Scalecoat, one for Floquil, and one for Testors. At $2.95 each, they should keep you from spilling your paint. P-B-L also has two sheets of molded styrene shingles (3⅞ x 11¾ inches) for $8.95. These sheets should speed up your building projects; I know I have buildings waiting for shingles on my layout. *Bob Brown.*

Chicago Express Products, 6301 North Canfield Rd., Chicago, IL 60631 is selling HOn3, Sn3, and On3 East Broad Top original two-bay (#800-809) steel hopper car kits. These kits include hand-filled urethane resin castings, Grandt Line brake details, and stirrup steps. The kits come less trucks and couplers. The HOn3 hopper sells for $17.95, the Sn3 version is $29.95, and the On3 car is $39.95. See CEP's Riptrack ad in this issue for details on trucks and decals for these cars. *Bob Brown.*



In Brief...

Stephen J. Wilke, 1631 Juniper Ave., Coos Bay, OR 97420, 503/296-7604, wants to start a **garden railway group** in his area. Write or phone for details...

Builders In Scale, P.O. Box 441432, Aurora, CO 80044 is now producing the O scale white metal castings formerly made by Colorado Scale Models. Over 30 parts are available including an indoor steam radiator, a rocking chair, a four-bladed ceiling fan, and an old fashioned water pump...

Echo Mountain Models, 821 N.W. Flanders St., Suite 230, Portland, OR 97209 is bringing out a Washington Iron Works 1902 all-brass On3 disconnected log truck kit. These kits have wheels with brass centers, and can be assembled with solder or glue. Due in October, they will sell for $40.00 a pair...

Simpson, 1968 Cemetery Rd., Placerville, CA 95667 has a new set of plans for the West Side Lumber Company's River Bridge – eight sheets of HO scale drawings and information...

One of our readers, Richard A. Darrah, mentioned in a letter that the **Old Erie Street Bookstore,** 2128 East Ninth St., Cleveland, OH 44115, 216/575-0743 has done a wonderful job of searching for (and finding) rare and out of print railroad and technical books for him. Contact Mark Stueve at the store for details...

The R.F. Giardina, Co., P.O. Box 562, Oyster Bay, NY 11771 has a new all gauge electronic trap trip ($15.00 plus $1.50) that will operate crossing gates, etc., as well as prevent collisions by detecting trains on the same track. They have a number of other "goodies" including an automatic reverser ($25.00 plus $2.50). Send SSAE for information...

Fred Bonney is hosting an **open house** at his 21- x 26-foot Sn3 layout on November 10-11, 1989 in Las Vegas, NV. All narrow gaugers are welcome. R.S.V.P. 702/438-4224...

The Northeastern Region, NMRA is holding its fall convention on October 27-29, 1989 in Hempstead, Long Island, New York. Contact Pat and Charlie Bettinger, 29 Foster Dr., Vernon, CT 06066, or phone 203/643-5925...

Lawson Limited Edition Prints, P.O. Box 82, Kalamazoo, MI 49004, has a new, limited edition black and white art print of Challenger #3988. These dramatic 14- by 18-inch prints are signed and numbered and sell for $20.00 postpaid...

Noted 2-foot gauge author, Robert C. Jones, has purchased the rights to Linwood Moody's book, ***Maine Two-Footers,*** and plans to re-issue it. Watch for details...

The Model Foundry, P.O. Box 844, Morrison, CO 80465 will soon release an O scale kit for the Tennessee Pass depot. These depots will only be available through the Model Foundry and will cost $120.00 postpaid...

Including over a dozen miniature empires of all sizes, the **13th International Railfair** will be held in Roseville, California, at the Placer County fairgrounds November 11-12, 1989. SSAE to P.O. Box 361, Roseville, CA 95661 for more info...

The 6th Annual Carolina Model & Hobby Expo will be held in Charlotte, North Carolina, November 4-7, 1989, at the Charlotte Merchandise Mart. Call 704/786-8373 for details...

The Pacific Northwest Region NMRA is sponsoring its seventh annual train show November 12, 1989, at the Cameron Rec Center, 9523 Cameron St. Burnaby, B.C. Call Dick Sutcliffe at 604/467-4301 for details...

The **Northwestern Pacific Railroad Diamond Jubilee** in Willits and Eureka, California, will celebrate 75 years of progress and growth on the north coast over two weekends, October 14-15 and October 21-22, 1989. Call Sandy Matthews at 707/442-9396 for details...

A show sponsored by the 7th Division Pacific Northwest Region NMRA **Trains '89** will take place at the Cameron Rec. Center in Burnaby, B.C. Canada on November 12. More info from Dick Sutcliffe 604/467-4301...

Plastruct, 1020 S. Wallace Place, City of Industry, CA 91748. Most of us think of ABS plastic shapes when we think of Plastruct, but their line is much greater than that. Plastruct's new 223 page catalog sells for $5.00 and lists hundreds of items besides ABS sheets and shapes, including urethane foam sheets, styrene and polypropylene sheets, plastic fittings, stairs, girders, basswood, sheet bricks, stones, sidewalks and other surfaces, trees, turf, grass, hedges, fences, adhesives, tools, boats, vehicles, people, furniture, airplanes, ping pong tables, and the neatest set of band instruments I have ever seen. Just a small part of the neat stuff in this new catalog. Don't miss it...

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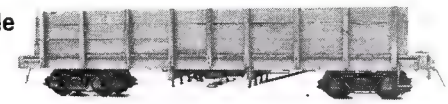

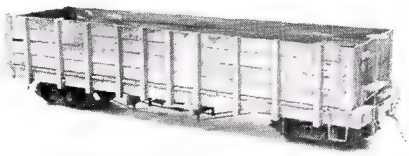

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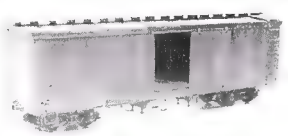

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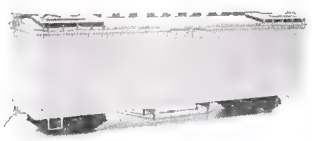
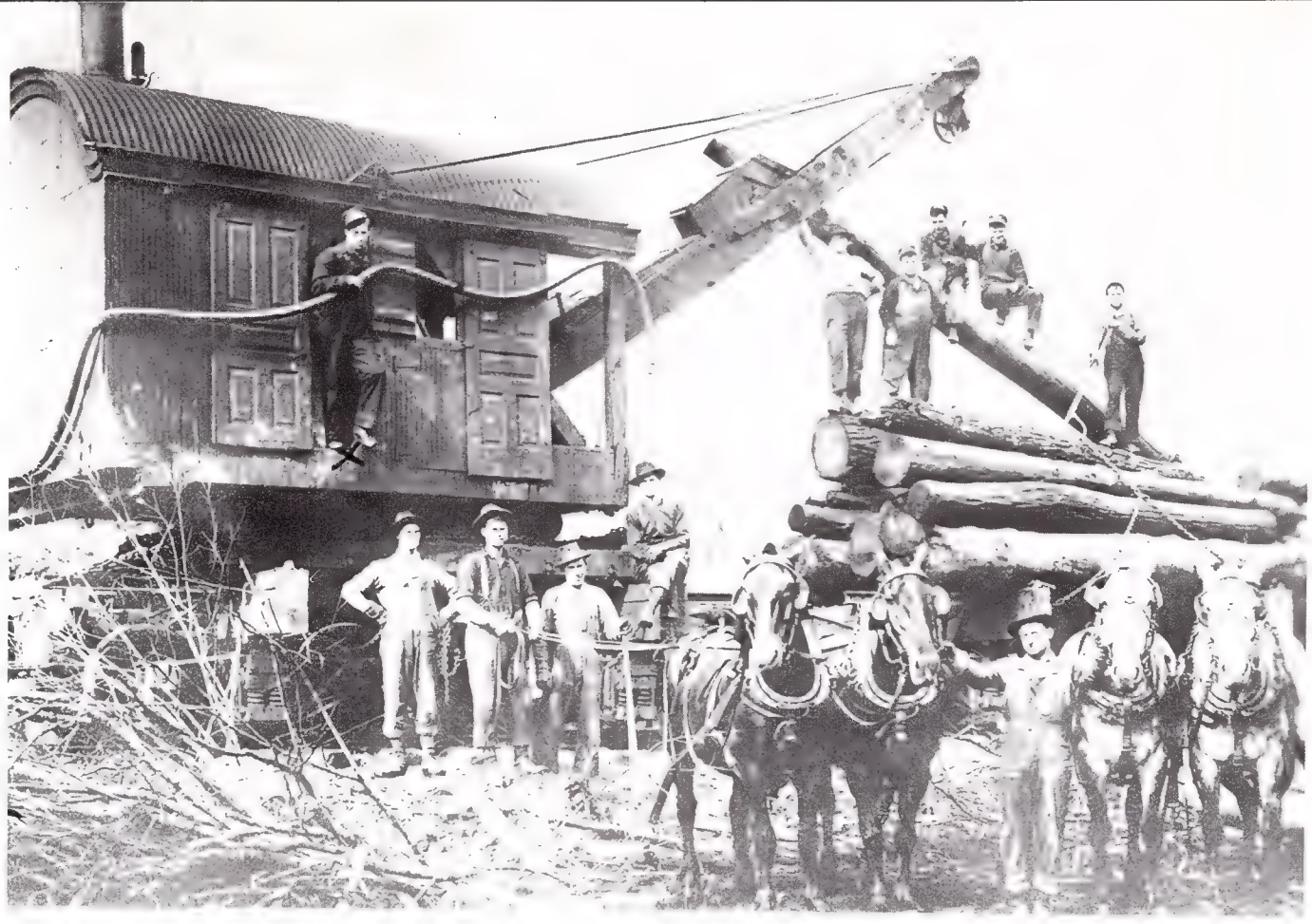




Above: A Model 10 Barnhart somewhere in Pennsylvania. Although model 10's were built with tar-paper roofs, many were later re-roofed with metal. Notice the corrugated metal roof on this one. *Photo, collection of Benjamin F. G. Kline, Jr.*

Opposite top: A Model 10 Barnhart at the Cherry River Boom & Lumber Company at Richmond, West Virginia. *Photo, collection of Benjamin F. G. Kline, Jr.*

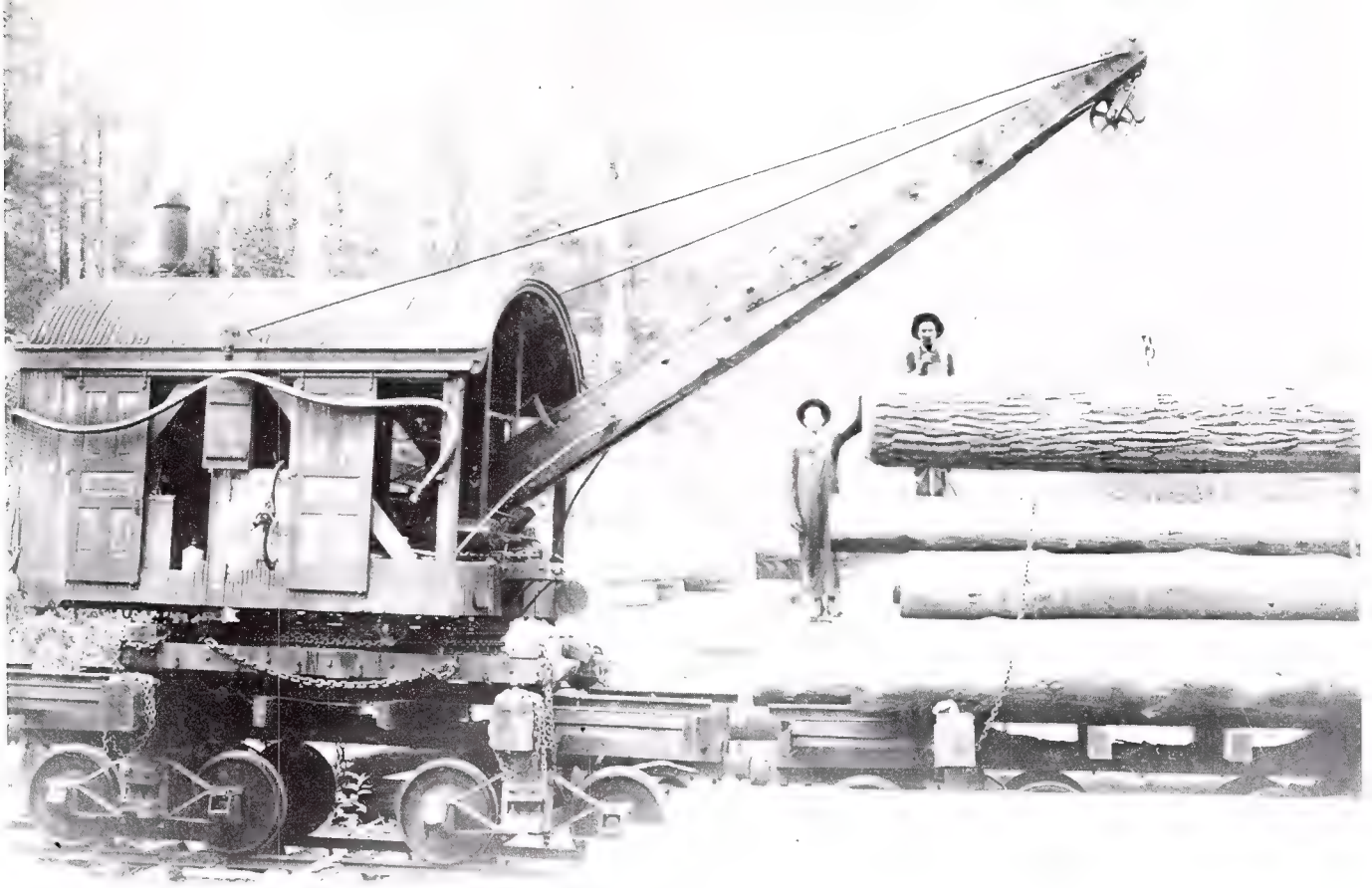
The Barnhart Log Loader

by David W. Powell

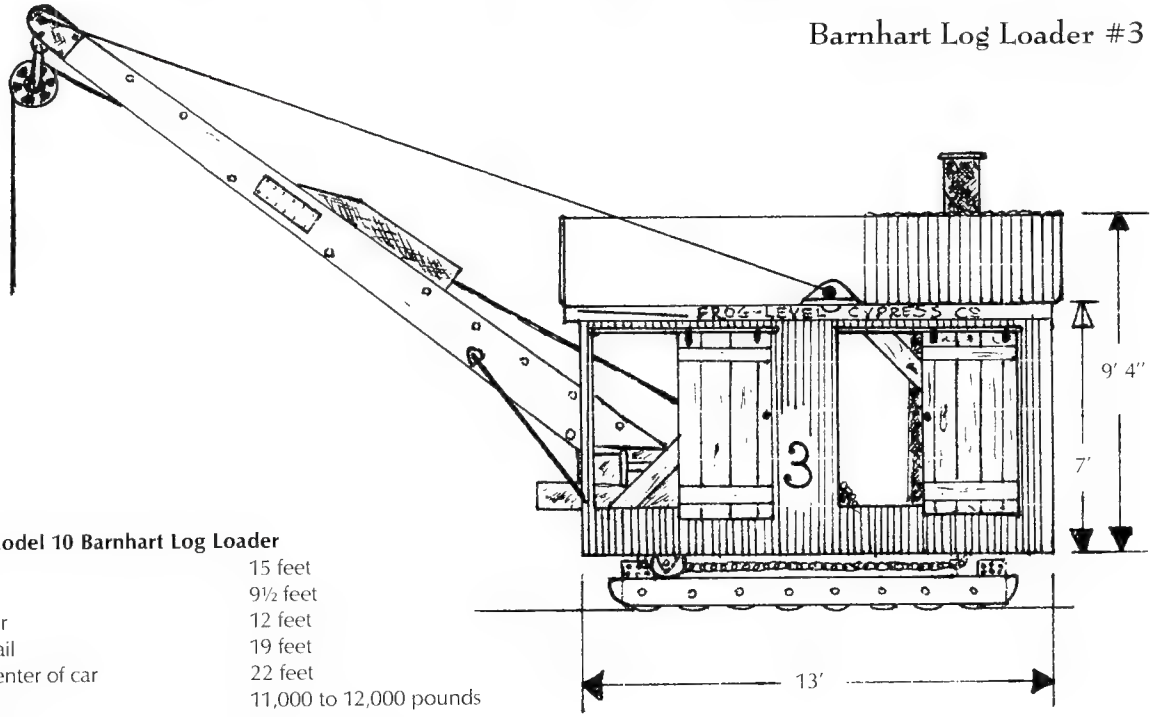
Barnhart Log Loaders are portable loaders that run along rails laid on the log cars they are loading. The Goodyear Lumber Company shop crew created the first such device around 1884, using a steam shovel and hoist already owned by the company. The idea may have been Frank Goodyear's or it may have been the brainstorm of one of his woodsmen. Whatever the case, the Goodyear Company was soon using its new loader in logging great stands of Hemlock in western Pennsylvania.

As soon as other logging companies heard about the new loader, and the money it was saving the Goodyear Company, there was a demand for more like it. The Marion Steam Shovel Company of Marion, Ohio, began to make the new loaders naming them "Barnhart Log Loaders" (or Barnharts) after the Marion Company gen-

Below: This Barnhart loader spans two log cars as it loads logs at an unknown location. *Photo, author's collection.*



Barnhart Log Loader #3



Specifications for a Model 10 Barnhart Log Loader

Length of cab	15 feet
Width of cab	9½ feet
Height of cab from floor	12 feet
Height of boom from rail	19 feet
Reach of boom from center of car	22 feet
Pull on loading tongs	11,000 to 12,000 pounds
Gauge of track on flatcar	6 feet
Length of Barnhart underframe	13 feet 4 inches
Width of Barnhart underframe	8 feet 2 inches
Number of 10-inch rollers on Barnhart underframe	16
Length of oak boom	24 feet 9 inches
Hoist engine	6½-inch diameter x 8-inch stroke
Boiler	36 inches in diameter x 90 inches high - 120 psi
Swing circle of loader	7 feet 5¼ inches
Number of swing rollers	20
Coal burned per day	300 pounds

DRAWN BY DAVID W. POWELL
SCALE: 3/16" = 1 FOOT

Above: This photo, which previously appeared in the March/April 1989 **GAZETTE** "Gallery," shows the only known Barnhart Log Loader still in existence when it was operating on the Ely-Thomas Lumber Company in Fenwick, West Virginia. This loader is now at the Pennsylvania Lumberman's Museum. *Photo by Ross A. Taylor.*

Right: An old postcard view of a loader at work near Galeton, Pennsylvania. *Author's collection.*

Below: At Trout Run, Pennsylvania, what looks like track was actually the rails on top of the log cars for the loader in the distance to move on. *Photo, author's collection.*

eral manager, H.M. Barnhart. The Goodyear Lumber Company was one of the first purchasers, and continued to operate Barnhart Log Loaders until about 1894.

Production began in 1886, and a total of 238 Barnharts of three different models had been built by 1927 when the last one was assembled. By 1906, 144 of the corrugated metal-roofed first models had been built. In that year, two new models (with tarpaper roofs) were introduced: the Model 10 for use in the eastern U.S., and the Model 12 for use in the western U.S. (The Model 12 had a steel boom instead of the oak boom used on the other two models.) Seventy-four Model 10's were built between 1906 and 1927, and 20 Model 12's were built between 1906 and 1916. It is not possible to use the roofs to reliably differentiate photos of the earlier and later models,

because the tarpaper on many Model 10 and Model 12 loaders was later replaced with corrugated metal.

Before the Barnhart Log loader was invented, stationary steam engines placed alongside the track dragged logs to a loading area. There they were loaded onto log cars from rollways using additional steam engines. It would have been much more efficient to bring the loader to the piles of logs rather than drag the logs to the loaders. And that's what the Barnhart Log Loader did – it moved itself along a pair of rails laid lengthwise along the bunks of log cars or flatcars. A Barnhart had eight double-flanged rollers along each side of its underframe so that it could straddle the gaps between the rails on one car and those on the next. Thus it was able to transfer from one car to the next in one or two minutes, as each car was loaded. When using a Barnhart, loading was almost always started at the rear of the train so that when the train was loaded, the Barnhart was next to the locomotive. This was desirable because Barnharts were top heavy, and they were less likely to tip over when they were right by the locomotive.

The loader part of the Barnhart was mounted on a turntable attached to the underframe that had the rollers, allowing the cab containing the boiler, engine, winch, drums, and boom to be swung around in a complete circle. The weight of the boiler at one end balanced the weight of the boom and its load at the other. If exceptionally heavy loads had to be lifted, guy ropes were thrown out to hold the cab and its machinery firmly in place.

It took a crew of three to operate a Barnhart: one man on the ground, one on the train, and one on the loader. The man on the ground attached the tongs to the logs. The man on the train steadied the logs as they were moved into position on the log cars, and unhooked the tongs when they were in the right place. The man on the loader fired the boiler and shoveled some 300 pounds of coal a day, but his main job was operating the loader. There were seven levers and numerous other devices that gave him very flexible control over all of the operations of the Barnhart. From his vantage point he had a clear view all around. One of his levers swung the boom and its cab on its pivoting base. Another lever took up and let out the cable, while another operated the drum that raised the logs. A foot-brake held the log in any position, and another lever unlocked the governors so the machine could be speeded up when another log was attached. Still another lever shifted the loader from one log car to the next and lever number seven controlled the throttle.

Barnhart loaders were used by many lumber companies in all sorts of terrain – on rough track and steep grades. Barnharts were even used as wrecking cranes on occasion. The only operating expenses for a Barnhart were the wages of the crew and the cost of fuel. With a good crew, a Barnhart log loader could handle at least 100,000 board feet of timber per day, sometimes more. The Barnhart loaders used at the Goodyear Company cost the company only a few cents per thousand board feet to operate. Not only were these loaders comparatively inexpensive to operate, they were also known for their reliablility and durability. They were so durable that many of them outlasted the log cars they loaded.

The only Barnhardt Log Loader known to exist today is located at the Pennsylvania Lumberman's Museum in Northwestern Pennsylvania. It can be reached by traveling 10 miles east of Coudersport, Pennsylvania, on Route 6 to an area known as Denton Hill. The museum is now planning to restore its Barnhart. Any information on Barnhart loaders would be welcome, send it to me c/o the **GAZETTE**.

Building a Barnhart Log loader would be an interesting project. Keystone Locomotive Works has white metal kits for a Barnhart in both HO and O scales.

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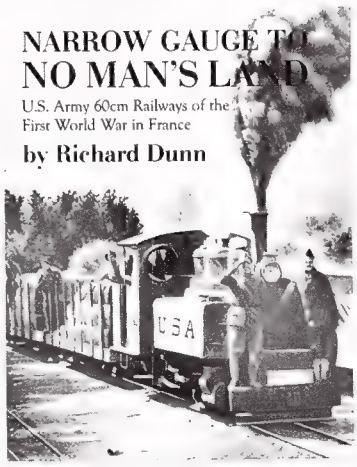

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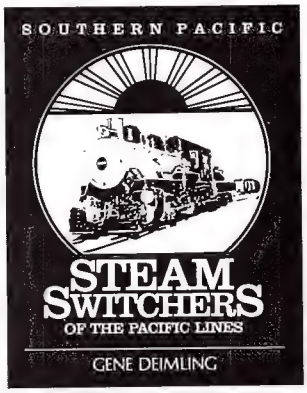

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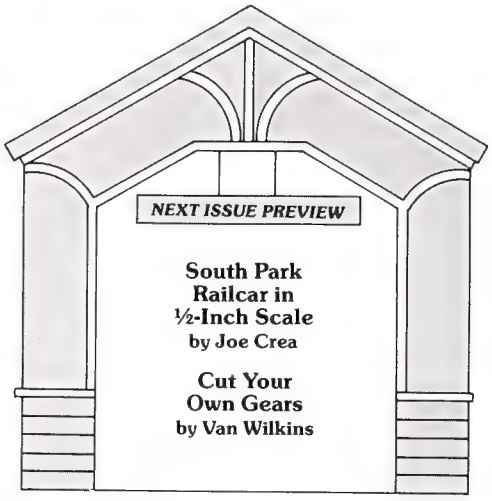

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☐ **NOVEMBER/DECEMBER 1988** - The Thomas Slate Quarry, Scratch-building an Sn3 K-27, Modeling 15-Inch Gauge in the Garden, Getting Them Running, Stillwater Mills Shay #3, An On30 Boxcar, Oahu Ry. & Land Co. 4-6-0 #85, Stillwater Mills Vertical Boiler Locomotive #1, Ridgway Toilet Building, Westfield Plantation Porter #1, Yosemite Short Line Hopper/Flatcar Details, Yosemite Short Line Porter #1 and 2, A 14-Ton Class A Shay.

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The Argentine & Cripple Creek Railway

by Lane Stewart
Photos by the author

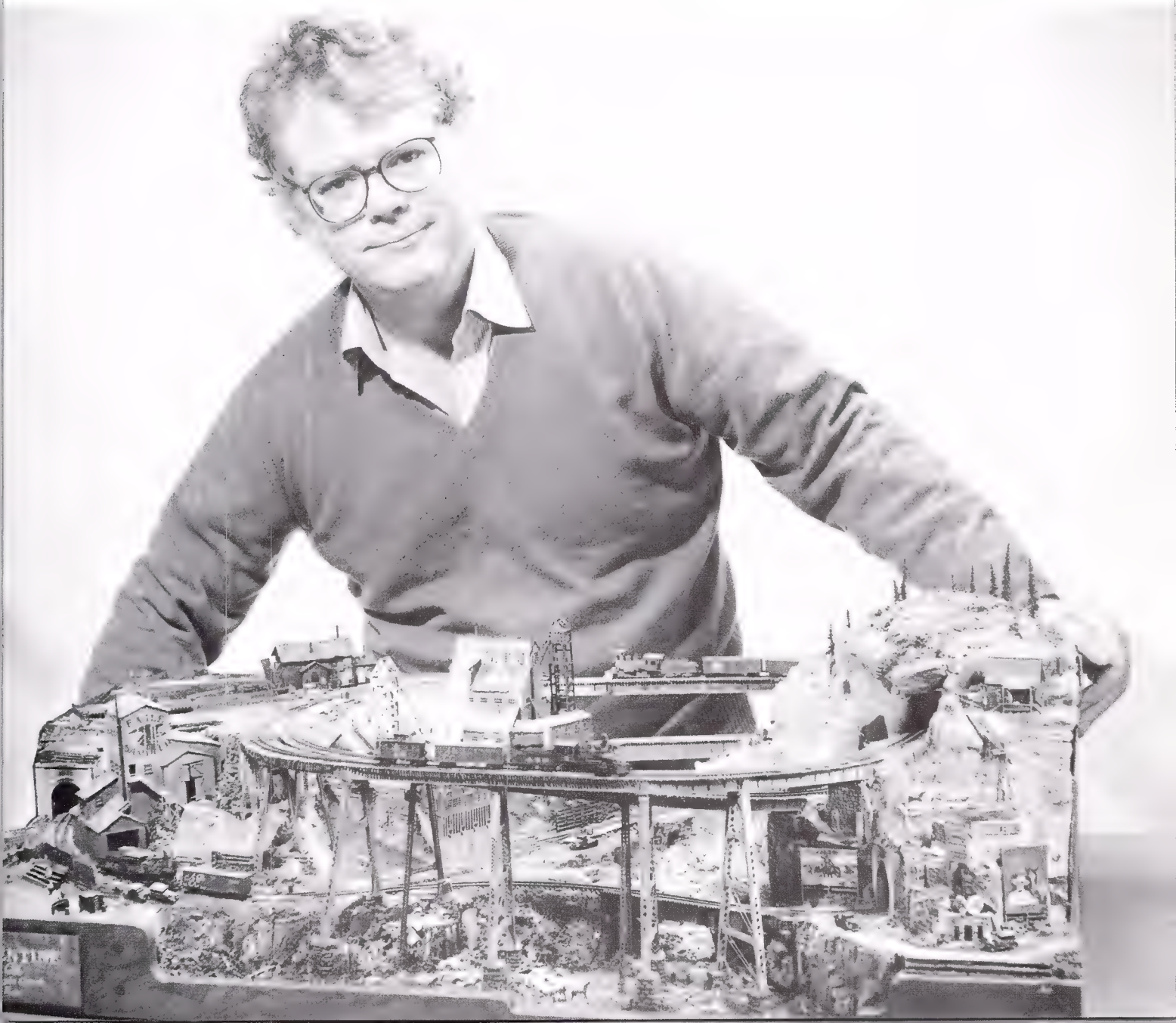
I didn't get started in model railroading by building a boxcar kit, or a few kit structures. I didn't even start by trying a small diorama. No, I started out right away on a layout – true, it is a small N gauge layout, but my Argentine & Cripple Creek Railway is a complete layout, and it was my first model railroad project.

It all started on the eve of my 39th birthday when my wife, Anna, presented me with what she thought was a "cute" little gift, a simple Bachmann N gauge round-and-round train set. I was fascinated – somehow, when I was growing up, I had never had a train set. That same evening, I ran out and bought all the current model railroad magazines, and as many back issues as I could find. (That was when I discovered a beautiful little magazine called **"NARROW GAUGE AND SHORT LINE GAZETTE."**)

By the time I had read all those magazines, I was really "hooked" on the hobby. Within a week I had drawn up an N-gauge track plan, and cut a scrap of plywood for my new 18- by 36-inch N gauge layout. (I decided on that size because an article in one of the magazines I purchased that first night showed a thirteen year old boy holding an 18- x 36-inch N gauge layout he had built. "Nice," I said to myself, "but I can do better than that." Although I eventually deleted some spurs from my track plan, the completed layout retains my original "seven-day wonder" design.

I gave myself one year to complete my layout, and I still think if I had known what I was doing, one year would have been enough. Sixteen months later, I attended my first (the fourth) National Narrow Gauge Convention in Denver, Colorado, and encountered Greg Scott of Gold Rush Models

The author and his narrow gauge empire.



and his little N scale superstructures designed to fit over Marklin Z gauge mechanisms. These create neat little Nn3 locomotives, and I bought the ones for Colorado & Southern locomotives #8 and #9. Now I was not only "hooked" on model railroading, I was hooked on narrow gauge.

After I left the convention, I went on a spending spree at Caboose Hobbies in Denver, returning home with all of the discontinued Nelson Grey Nn3 boxcars (now made by Kadee) that I could find, some really good German Z gauge locomotives, and batches of Flex track and turnouts. The Argentine & Cripple Creek was going to go narrow gauge.

I was learning so much that I didn't hesitate to rip out what I had already done. Out came my N gauge track, and down went the new Z gauge Nn3 right-of-way. Out came my wood and plaster scenery, and in went scenery made from styrofoam and Hydrocal. I tried real rocks – from gutter gravel to Rock Quarry specials, and home-made rocks cast in rubber molds. I tried solonoid switch machines and replaced them with hand-thrown ones. My turnouts went from cheap Z gauge turnouts, to hand-laid turnouts, to really expensive Z gauge turnouts. I tried Flex Track, and hand-laid track. I experimented with wood kits, plastic kits, scratch-building, oil paints, water colors, pastel chalks, acid-etching, air brushes, dry-brush, Windex bottles, and the techniques of John Allen, Bob Hayden, and Malcom Furlow. That's a lot of modeling experience to fit on an 18-inch x 36-inch scrap of plywood.

Even though the layout was small, I still had the nagging fear that besets many layout builders: "Will I live long enough to finish this thing?" Finally, at the two-year mark, the Argentine & Cripple Creek looked good enough to be photographed and proudly displayed. It wasn't truly "finished" but my interests moved on into HO and S scale, and my little layout was put away in the closet to gather dust.

In 1988, the Eighth National Narrow Gauge Convention was held in Wilkes-Barre, Pennsylvania, within driving distance of my home, and once again the narrow gauge convention changed the fate of my Argentine & Cripple Creek, I took it out, finished it and took it to the show. The total elapsed time was 5 years and 4 months to complete the 18- x 36-inch layout that I

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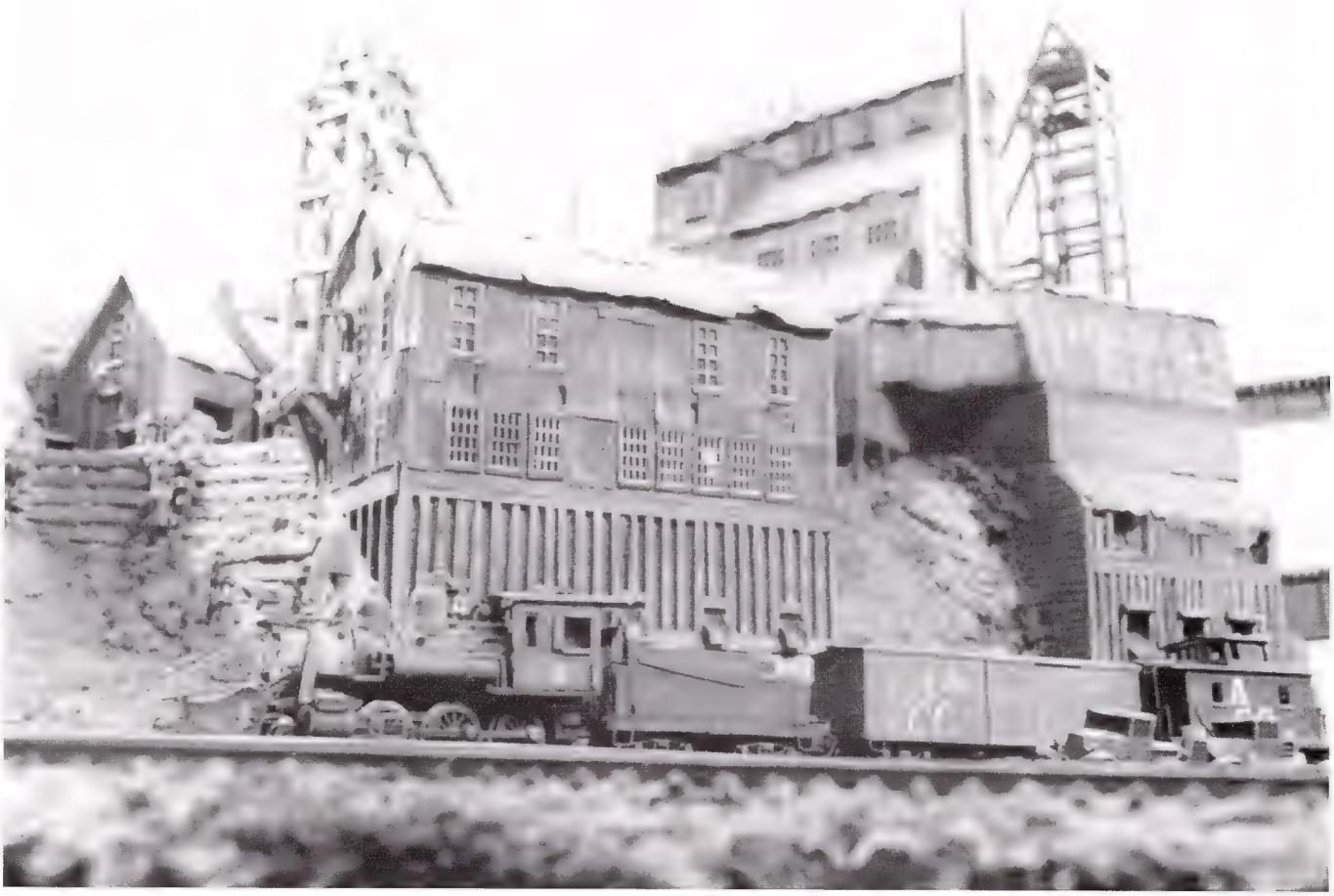
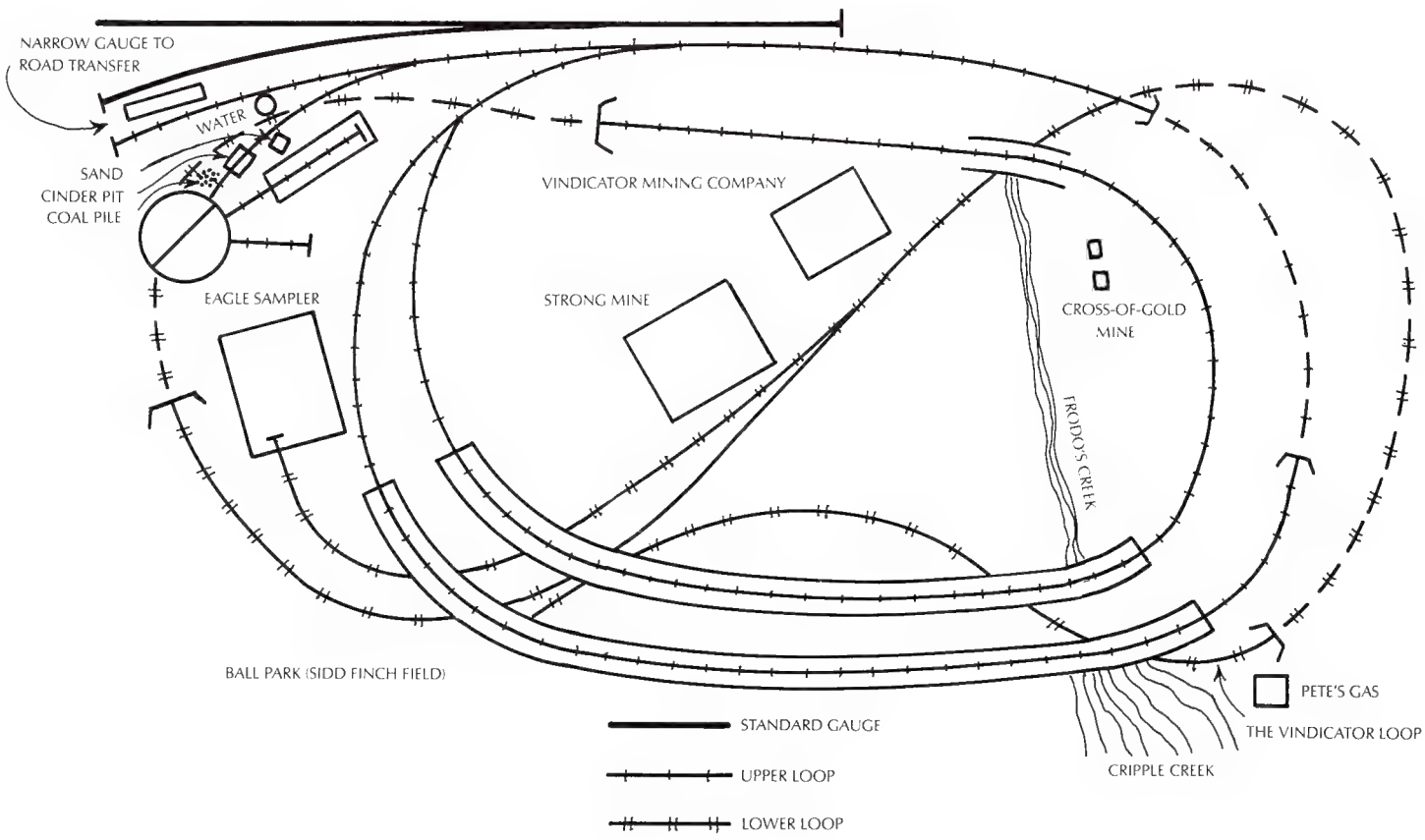
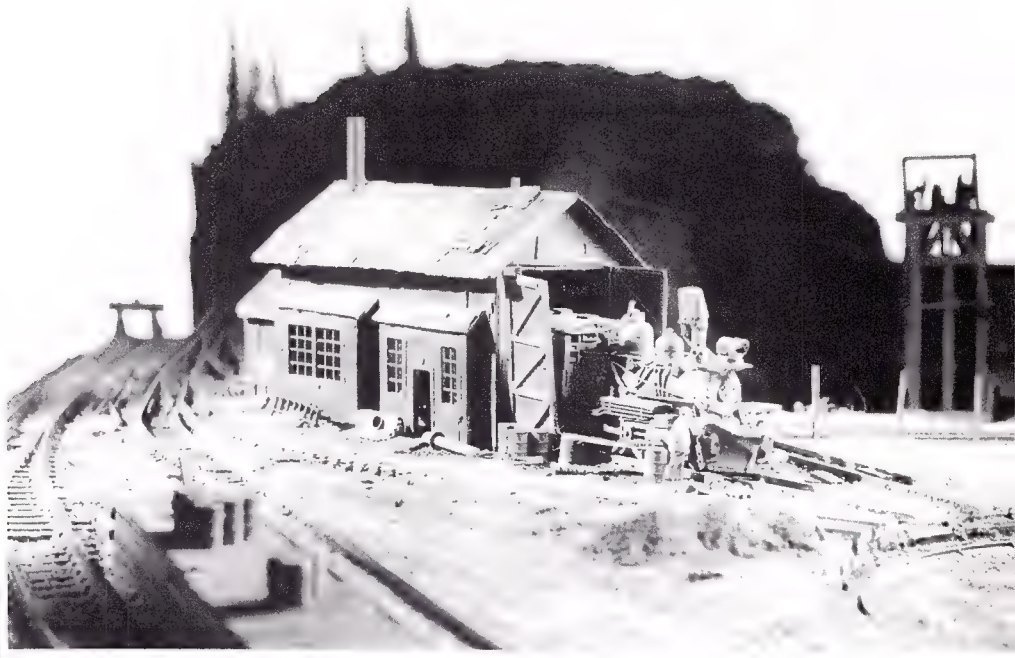
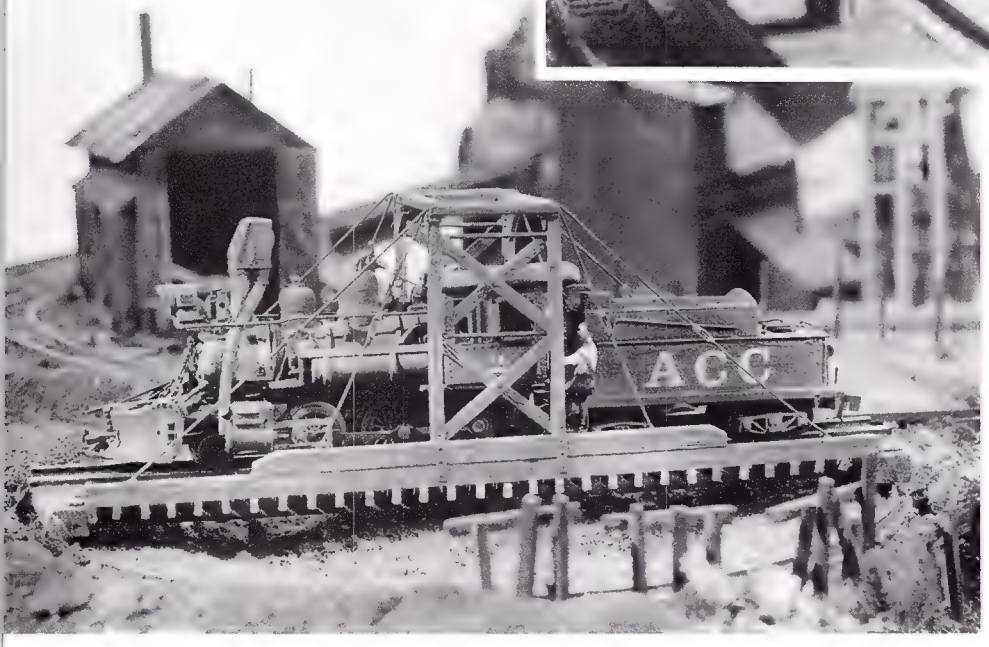


The Argentine & Cripple Creek Railway

NOT TO SCALE







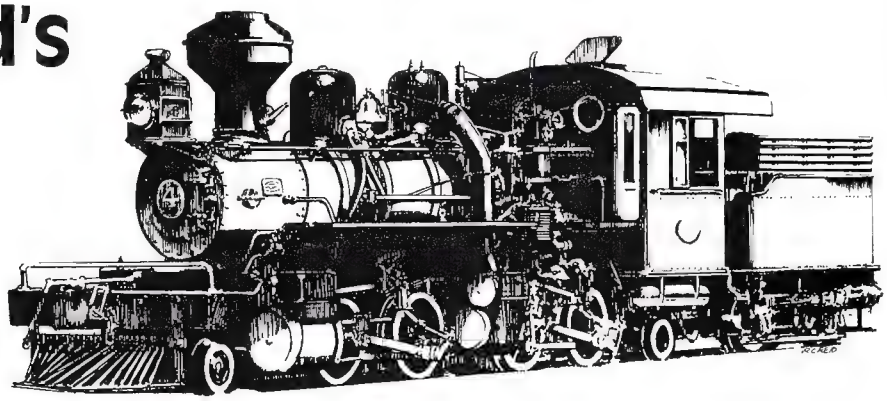
planned to do in a year, but during a number of those years it gathered dust in the closet.

Not only did this small layout allow me to develop the same modeling techniques that a larger one would, it required the same kind of research. The mining structures are based on ones found in Cripple Creek and Victor, Colorado. The Eagle Sampler was condensed from published photos, and the Sidd Finch Field is based on the many small town baseball parks that I have photographed from the air. I actually did my research at the Baseball Hall-of-Fame in Cooperstown, New York. If you like research, don't think a small layout isn't going to be challenging. The Argentine & Cripple Creek pushed me into areas of observation I had never dreamed of. I photographed river bottoms, rusting 1934 pick-ups, windmills, sagebrush, boxcars, and cowboys. I brought home cinders from Chama, New Mexico, and tailings from the Argo Chutes near Silver Plume, Colorado.

If all this sounds familiar to most model railroaders, that's the point. A small project like the Argentine & Cripple Creek is no different from its larger relatives, except that it is more likely to be completed. If you are one of those who can't find time to start the *big one*, consider starting a *little one*. Do it now, especially if – like me – you don't have room for a large layout right now. I have had a lot of fun with small layouts. I have a 2- x 8-foot HO and S scale scene underway and I am also working on the O scale "Wedding Cake Layout" described in the July/August **GAZETTE**. It's all fun, and while small layouts may not satisfy your urge to operate an empire, they are fun to run. They are not part of any grand design or future layout. The Argentine & Cripple Creek Raiway doesn't connect to any other railroad. It simply answers the question of whether you will live long enough to finish it. The answer is, "Yes, if you will just get on with it." If your interest wanes, you can put your layout in the closet, for awhile, until you are ready to go again. Small-project modeling is low-pressure modeling.

That brings me to the advantage of small projects if your family isn't too enthusiastic about your modeling. Since we are apartment dwellers, the Argentine & Cripple Creek is, relatively speaking, not so tiny. (It now hangs on the wall like a three dimensional aerial photograph between a railroad calendar and a signed photo of Mohammed Ali.) Nevertheless, neither it (nor any of my other railroad projects) ever took me away from my family. Small-projects don't require basements or attics where you sequester yourself away from your loved ones evening after evening. Although Anna more or less ignores the fact that I am modeling trains, she seems happy that I am in the same room, in front of the TV bent over a tray for most of the evening. Once I must have gone off and left one of my locomotives on a bit of a grade. This led to Anna's only complaint about my modeling – she was startled one time when C&S #9 unexpectedly started to move in a darkened room.

New Zealand's Unique Mallet



by Bob Reid
Sketch by the author
Photos from Paul Bernsten

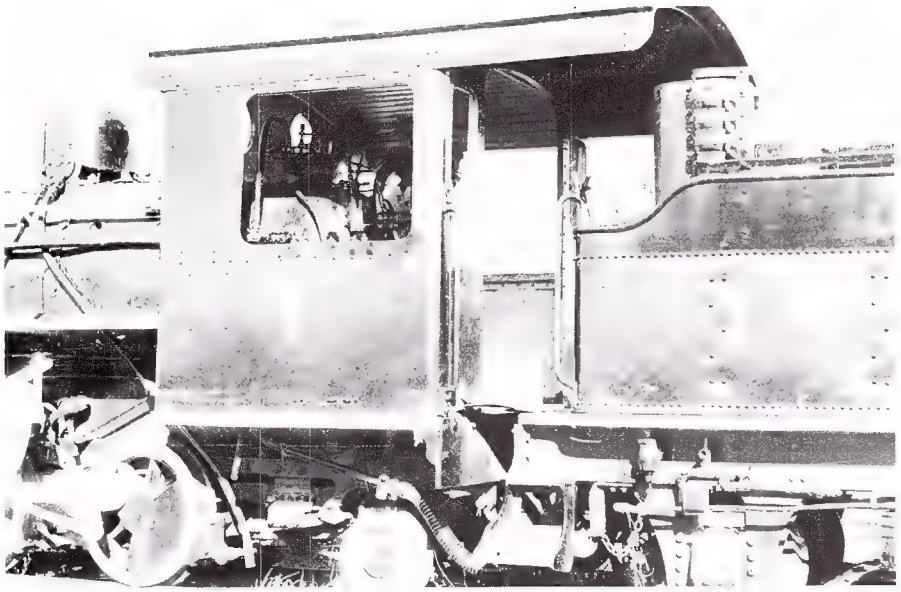
When they think about logging Mallets, most modelers probably visualize Weyerhauser tank engines, Hammond Lumber Company Baldwins, or Little River Railroad 2-4-4-2's. But when I think about logging Mallets, I think about a little 1907 ALCO 2-4-4-2 Mallet still alive and well in New Zealand.

This little Mallet originally belonged to the 42-inch gauge Taupo Totara Timber Company, a New Zealand company, that also operated four Heislers in its fleet of ten locomotives. The Taupo Totara company is known for operating the longest stretch of logging railway in New Zealand – some 50 miles between Putaruru to a spot near Lake Taupo in the central part of North Island. This line contained a corkscrew section of sharp curves on its 1000-foot ascent.

In 1907 the Taupo Totara Company ordered two new Mallets as part of an effort to increase the company's hauling capacity: 1) an 0-4-4-0T Mallet from Orenstein and Koppel, and 2) the subject of this article, a 2-4-4-2 tender locomotive from the American Locomotive Company (ALCO).

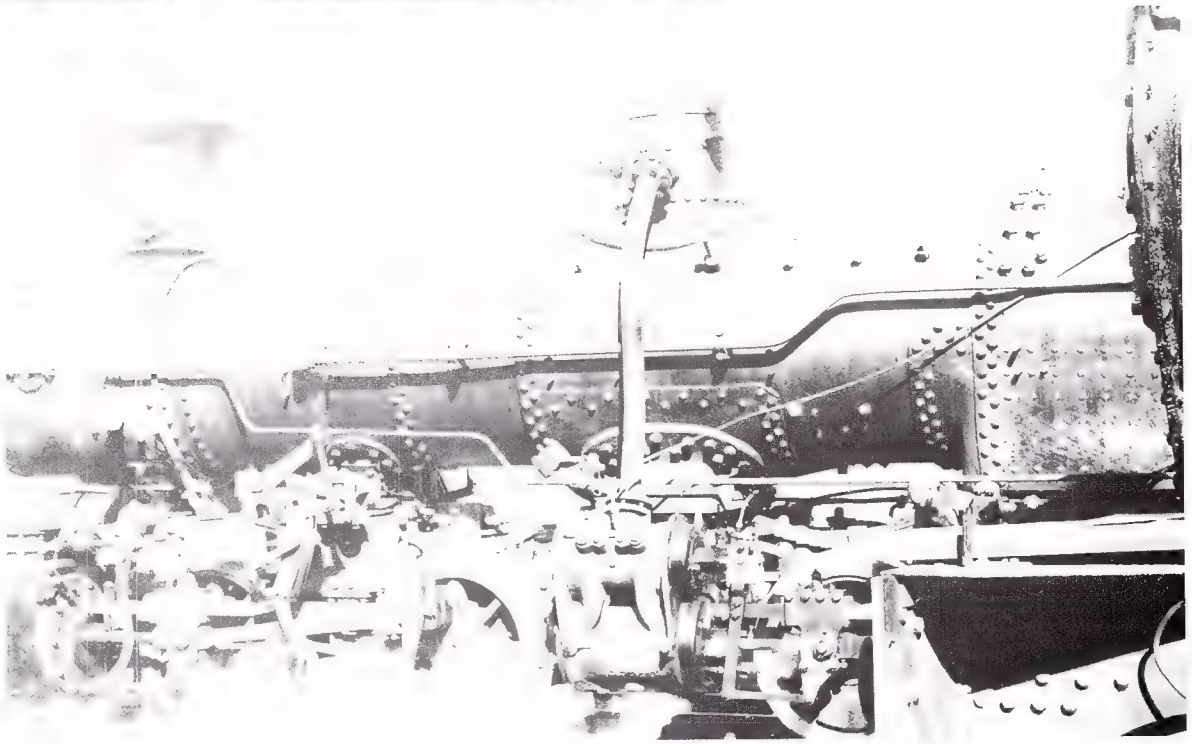
These orders were optimistic – a period of financial problems soon forced the company to cancel both of them. The 0-4-4-0T was probably sold to another company, but the 2-4-4-2 was stored at ALCO's Schenectady, New York, plant until September 1913, when Taupo Totara was finally able to pay for her. She could have been sold elsewhere, but because of her unusual design and odd gauge of 42 inches, ALCO probably found it less troublesome simply to store her for six years than to search for another buyer.

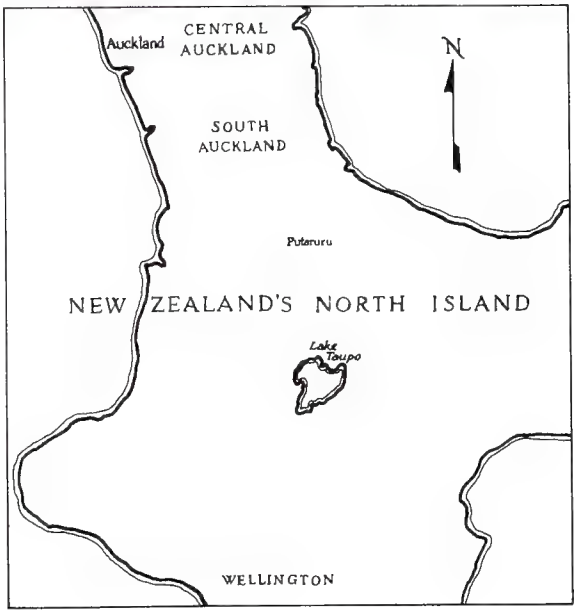
Despite the fact that this little Mallet was built in 1907, her builder's plate reads "1913," and her serial number is 53970. She has inside bar frames, piston valves on her high-pressure cylinders, and a 2000-gallon capacity four-wheel tender. Weighing



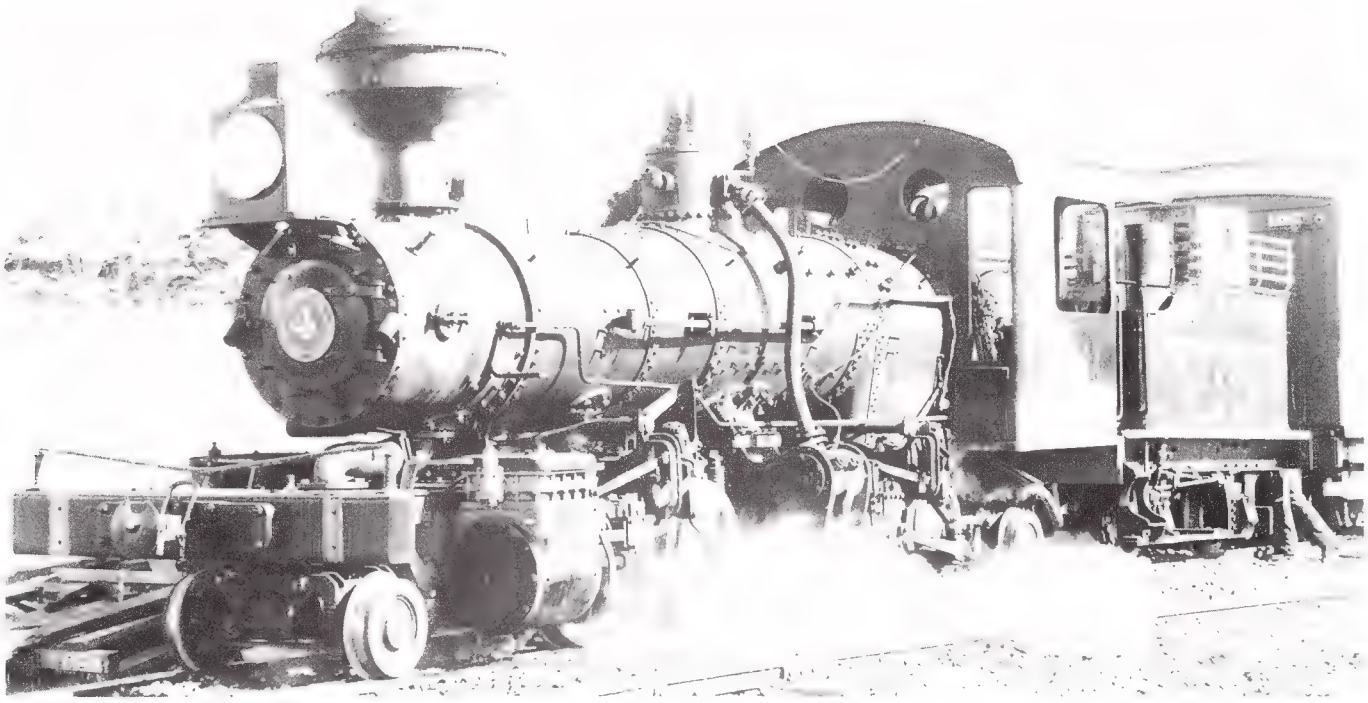
Here, before restoration, and just after she was recovered from static display, the Mallet still has her Taupo Totara Timber Company lettering Note her rust-eaten sand dome.

During restoration, the Mallet was thoroughly tested with her boiler cladding and cylinder covers removed before she was rebuilt.





Opposite:
The Glenbrook Vintage Railway Mallet stands in all her splender after restoration. The box headlight and gold trim were added during the rebuild.



The 42-inch gauge New Zealand logging Mallet undergoing steam trials at the Glenbrook Vintage Railway Museum in the late 1970s.

around 45 tons, she has a total tractive effort of 10,500 pounds developed in her two 10-x 14-inch high-pressure cylinders and her two 16-x 14-inch low-pressure cylinders. Her driving wheels are are 32 inches in diameter, and her boiler has a working pressure of 180 pounds per square inch.

After serving the Taupo Totara Timber Company from 1914 to 1945 (when their logging operations ceased) the Mallet was sold to a scrap merchant to be cut up. Fortunately, he never got around to it, and she was acquired by the Auckland Railway Enthusiast's Society who placed her on static display near her former work place at Putaruru. Exposure to the elements and vandals took their toll for the next 17 years until another stroke of good luck insured the locomotive's future. In 1975 the Glenbrook Vintage Railway acquired the Mallet, and under the supervision of their mechanical officer, Mr. Ted Pointon, began the long task of restoring her. By October, 1977, the 70-year-old Mallet was polishing the rails once more, and today she continues to run on occasion, to the delight of all.

The Glenbrook shop crew did make some alterations during her restoration. Changes made for operating reasons, included the addition of Westinghouse air pumps, a bell, a tender brake cylinder, and an old fashioned box headlight.

The Glenbrook Vintage Railway operates a 5-mile portion of ex-New Zealand Railway branchline about an hour's drive south of Auckland City. The Mallet and other equipment handle tourist trains at the museum which is set in some most pleasant rural scenery.

This little Mallet would make a challenging subject to model. I only know of one model of her in existence –it appeared in the September 1968 MODEL RAILROADER. I have a set of drawings that I would be glad to share with anyone writing to me in care of the **GAZETTE**.

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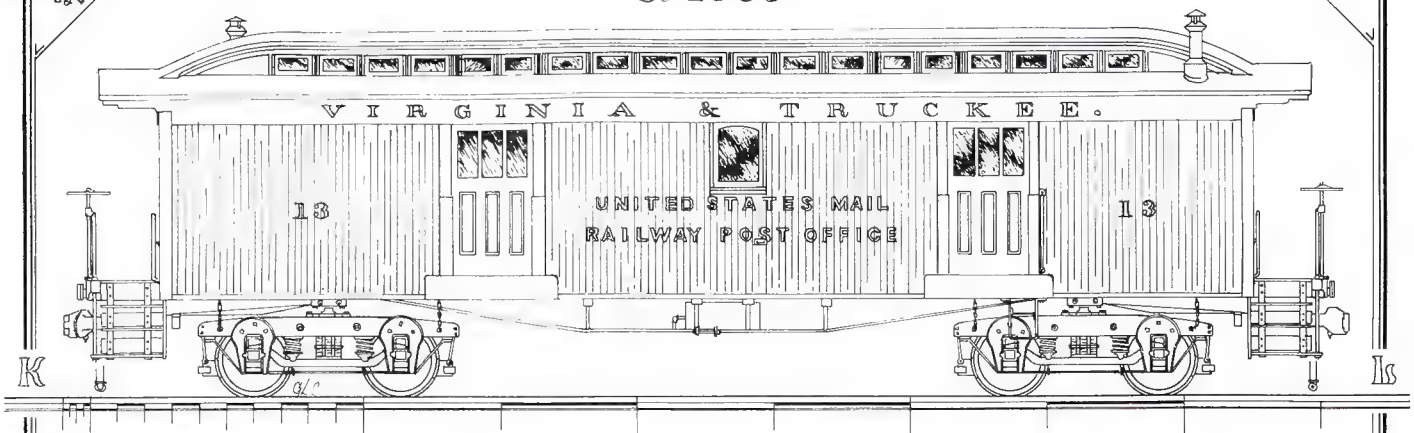

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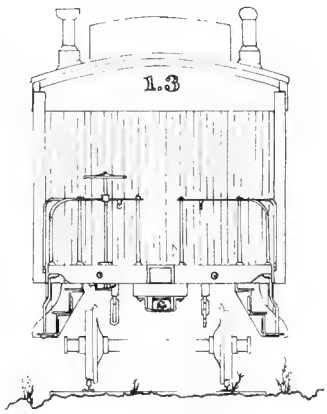
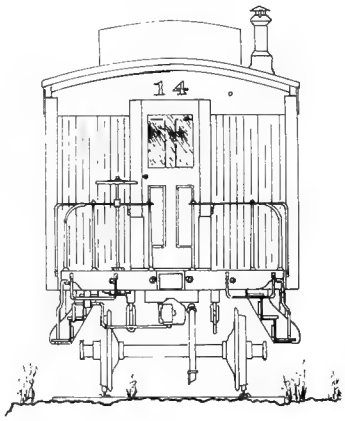
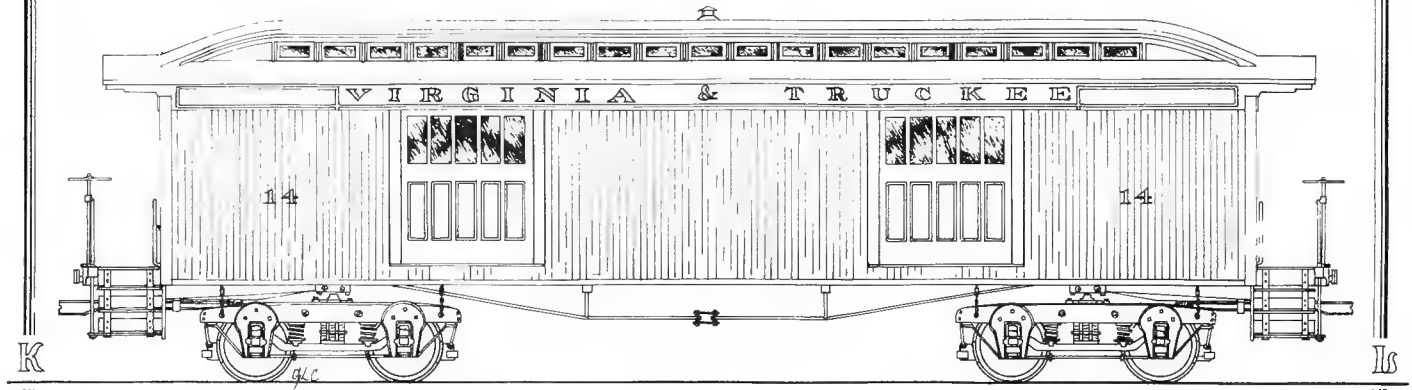


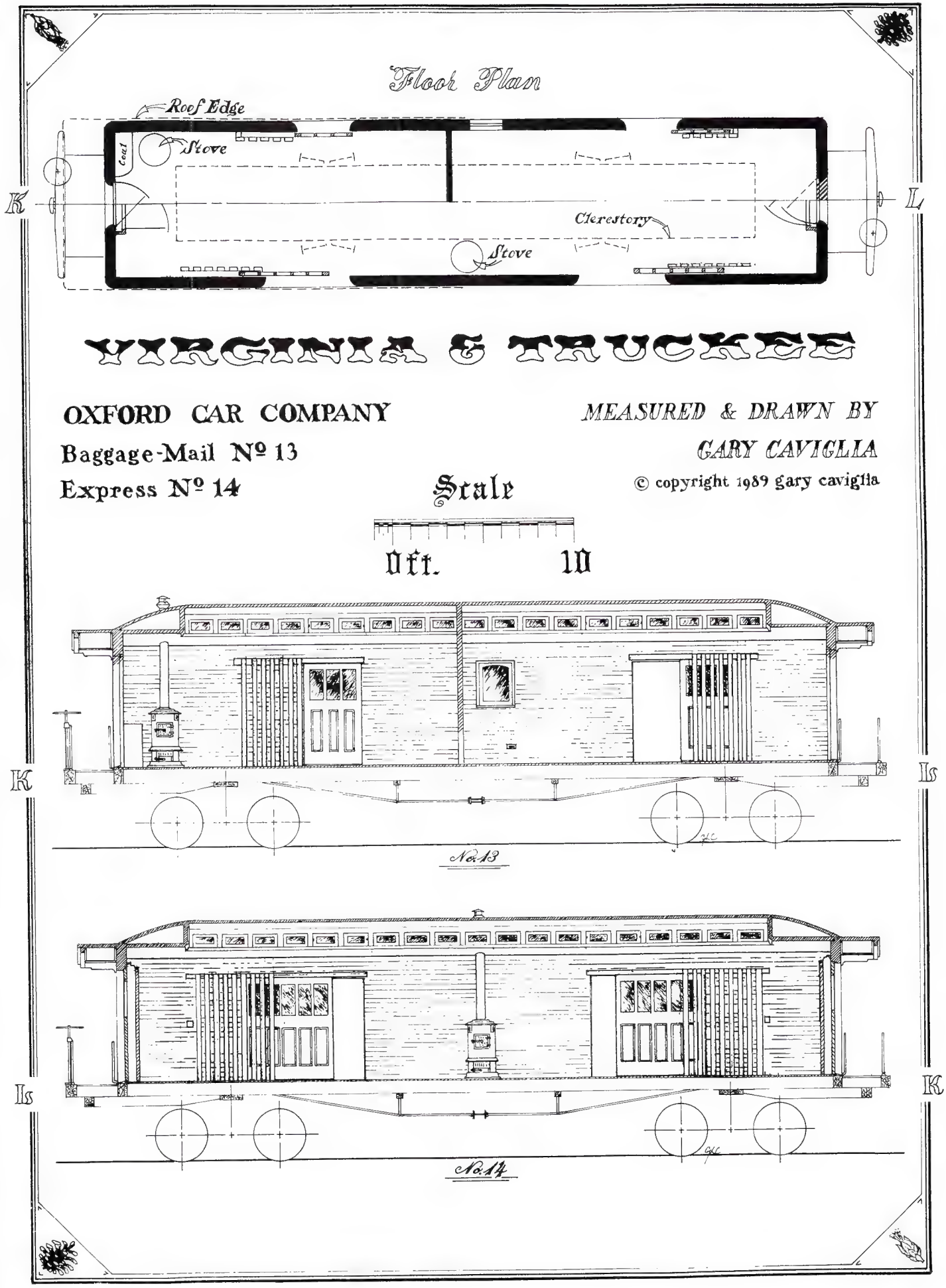
Lend, C. 1886



C. 1920



C. 1900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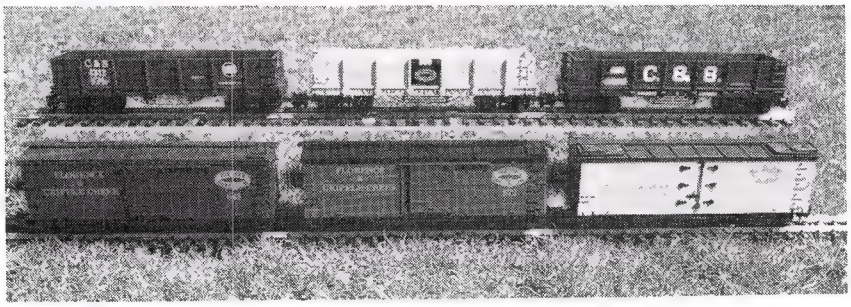

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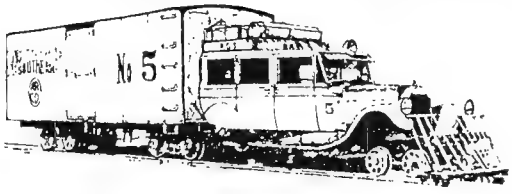

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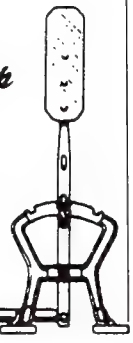

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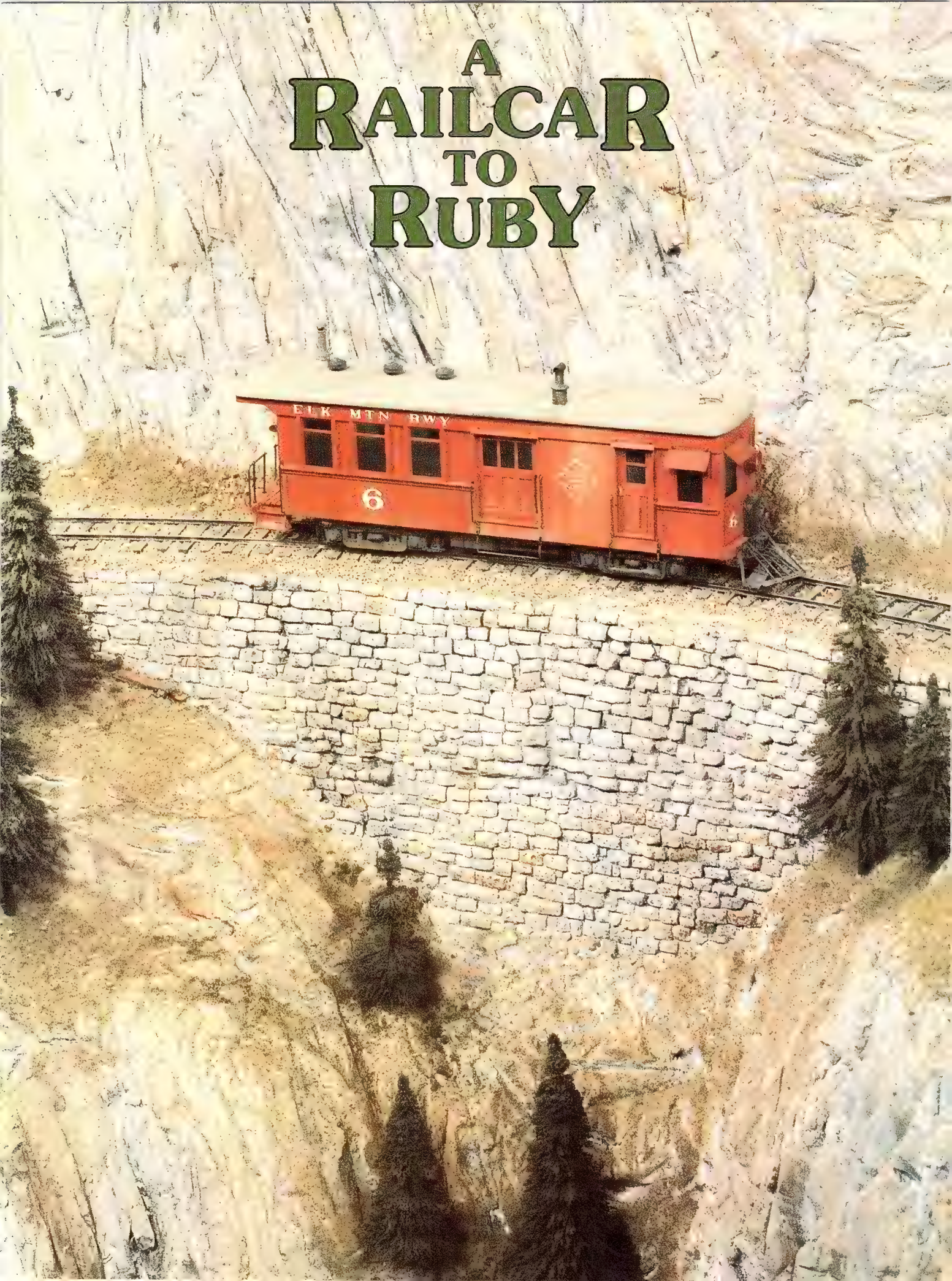


by Bill Miller
Photos by the author and Dave Johnson

Second Place Award in Diesel and Other

I've always had a special interest in railcars. From the Denver & Rio Grande Western's standard gauge railcar to the East Broad Top's M-1, to the Rio Grande Southern's Galloping Geese, they are all great examples of ingenuity.

This railcar adventure began when a member of our Elk Mountain Timber Company board of directors read Gordon North's railcar article in the September/October 1986 **GAZETTE**. The On30 Elk Mountain Timber Company brings timber from the woods to a sawmill just north of Ruby where the logs are turned into lumber for shipment out on our branch of the C&S. (My wife, Mary, and I are modeling what might have been if the Ohio Creek extension of the Denver, South Park & Pacific/ Colorado & Southern Railroad had been completed.)

Since passenger traffic on the EMT is limited to loggers, a railcar was just what was needed. A board meeting was called, and a contract was negotiated with the C&S shops in Ruby to build a railcar. We wanted the car to look pretty much like Car #20 of the Montana Western Railroad. (The MT ran between Valier and Conrad, Montana. In 1947 its Car #20 became a lunch wagon in Havre.) Like Gordon we wanted the mechanism to be an HO gauge Kato from an Atlas RS-3 Diesel. Two mechanisms were produced, but only one superstructure. The superstructure can be lifted off the unmodified On30 mechanism that runs on our home layout, and placed on the modified On3 mechanism that will run on our friends' layouts when we go visiting. (For the modified mechanism, master mechanic Mary, following Gordon's technique, widened the trucks to On3 using a styrene strap attached with 00-90 x 3/16-inch screws.)

We were able to use the deck of the RS-3 superstructure. Cast in a separate piece, it is keyed to drop over the motor and gear housing of the Kato mechanism. Photo 1 shows the deck with its end platforms cut off and ready to become the floor of our railcar. The completed superstructure was glued to this deck with floor spacers; the entire assembly is lifted off when we want to change mechanisms.

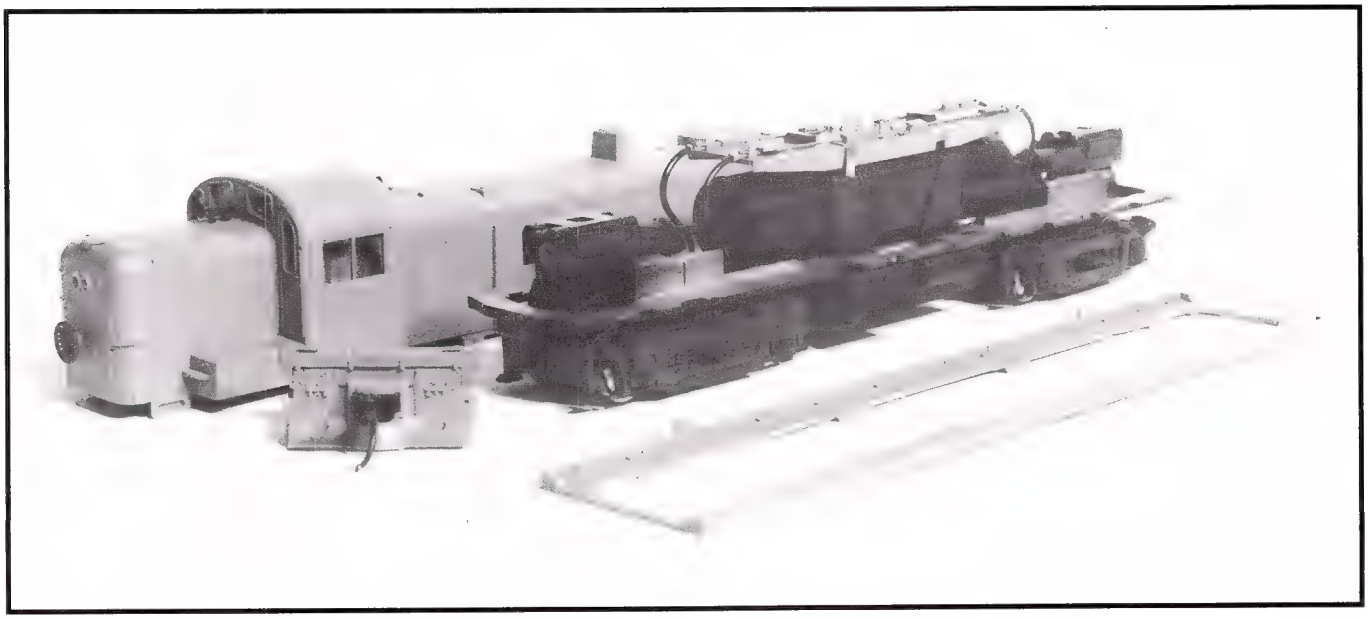
The sides were laid out using Evergreen 0.040-inch-thick siding with scale 3¼-inch scribing – they are 6½ scale feet high by 27½ scale feet long. Once the windows were cut out, strips of scale 2- x 12-inch Evergreen styrene were glued along the top edge of the sides to form the tops of the windows. A second 2 x 12 strip glued on top of the first one formed the letter board. Grandt Line #3801 windows were used for the passenger section and #3803 windows were used in the crew compartment. Grandt Line #3802 doors were added on the baggage compartment. The rear end was built in the same way as the sides. However, the front end came from a Testors San Francisco cable car kit.

The roof is not removable and was made from a sheet of ¼-inch-thick hard balsa wood carved to shape, then sanded, sealed, and airbrushed with Floquil Foundation. It was over-sprayed with black to give it a weathered canvas look. The roof vents, smoke jacks, and horn completed the roof.

In attaching the superstructure to the deck, the most important aesthetic consideration was to create that low-slung look so common to narrow gauge equipment without interfering with the swing of the trucks. Some tests showed how low the sides could go without interfering. Once this measurement was made, we used floor spacers to attach the superstructure to the deck as as shown in Photo 2. Our railcar is 7 scale feet wide – note that the thickness of the spacers will be determined by the width of your car. The floor spacers were ACC'd between the sides of the car and the top of

Opposite (color): The On30 Elk Mountain Timber Company #6 makes its way through the steep and heavily-timbered Elk Mountains.

Photo 1. The Atlas HO gauge RS-3 Diesel with its Kato mechanism. The deck is in the foreground with its end platforms cut off.



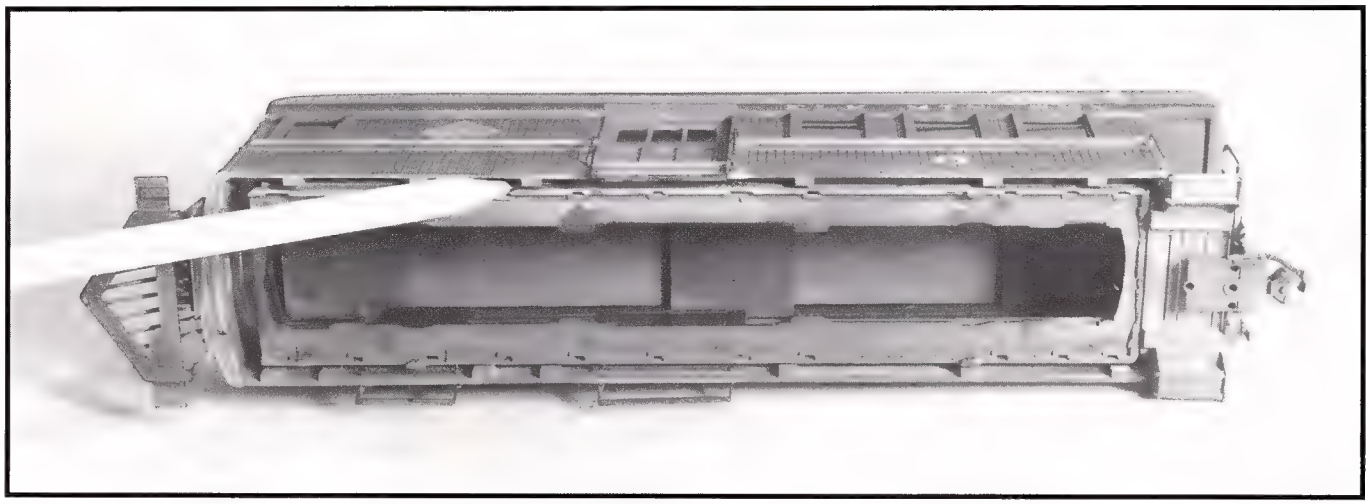


Photo 2. The original deck of the Atlas HO gauge Kato Diesel mechanism with the new railcar body in place over it. The pencil is pointing to one of the styrene floor spacers used to attach the body to deck.

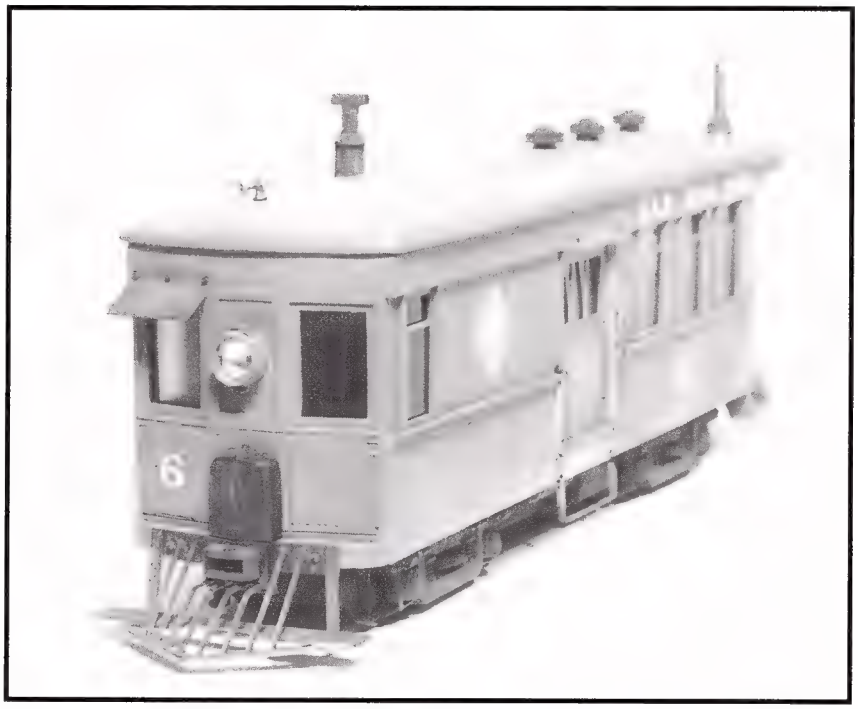


Photo 3. The front of Elk Mountain Timber #6 came from a Testors San Francisco cable car kit.

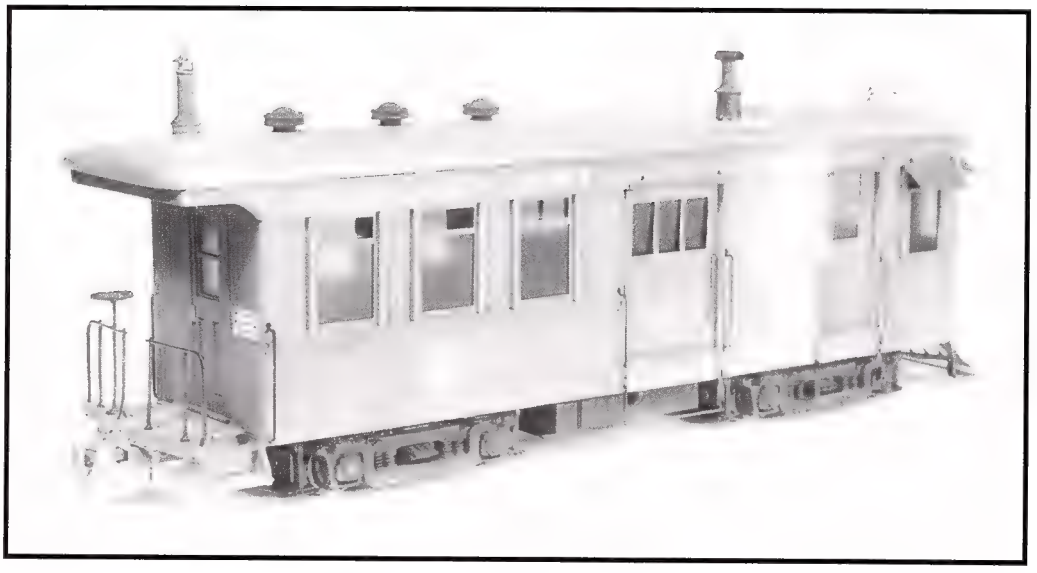


Photo 4. The superstructure of Elk Mountain Timber #6 is sheet styrene with Grandt Line doors and windows. The roof is hard balsa wood. Many of the details came from the scrapbox.

the deck so that the sides are the correct height when the whole assembly is placed on the mechanism.

Nut and bolt details, handrails, Grandt Line baggage door steps, and styrene door molding were added. The pilot came from our scrapbox and was attached with brass nut and bolt castings ACC'd in place. The radiator also came from the scrapbox. The cab shades were cut out of brass and ACC'd in place with their nut and bolt detail.

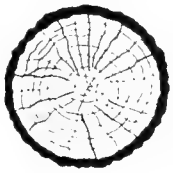
The rear platform is supported by scale 2- x 6-inch styrene strips that provided a surface for gluing on the Grandt Line passenger car steps. Its individual wood plank deck has railings from Precision Scale Company – an On3 Kadee coupler completes the rear platform.

The car was lettered with dry transfer lettering and weathered with airbrushing, hand-brushing, and a final dusting of powdered chalks.

The members of the shop crew at the Colorado & Southern's Ruby shops are proud of their railcar. As for the rest of the Testors San Francisco cable car, I recall hearing Mary mumbling something about a blacksmith car for our logging line – Hmmm!

THE CEDAR RIDGE MINE & TIMBER CO. RAILWAY

by Gordon Varney
Photos by the author



TIE & TIMBER SHORT LINES

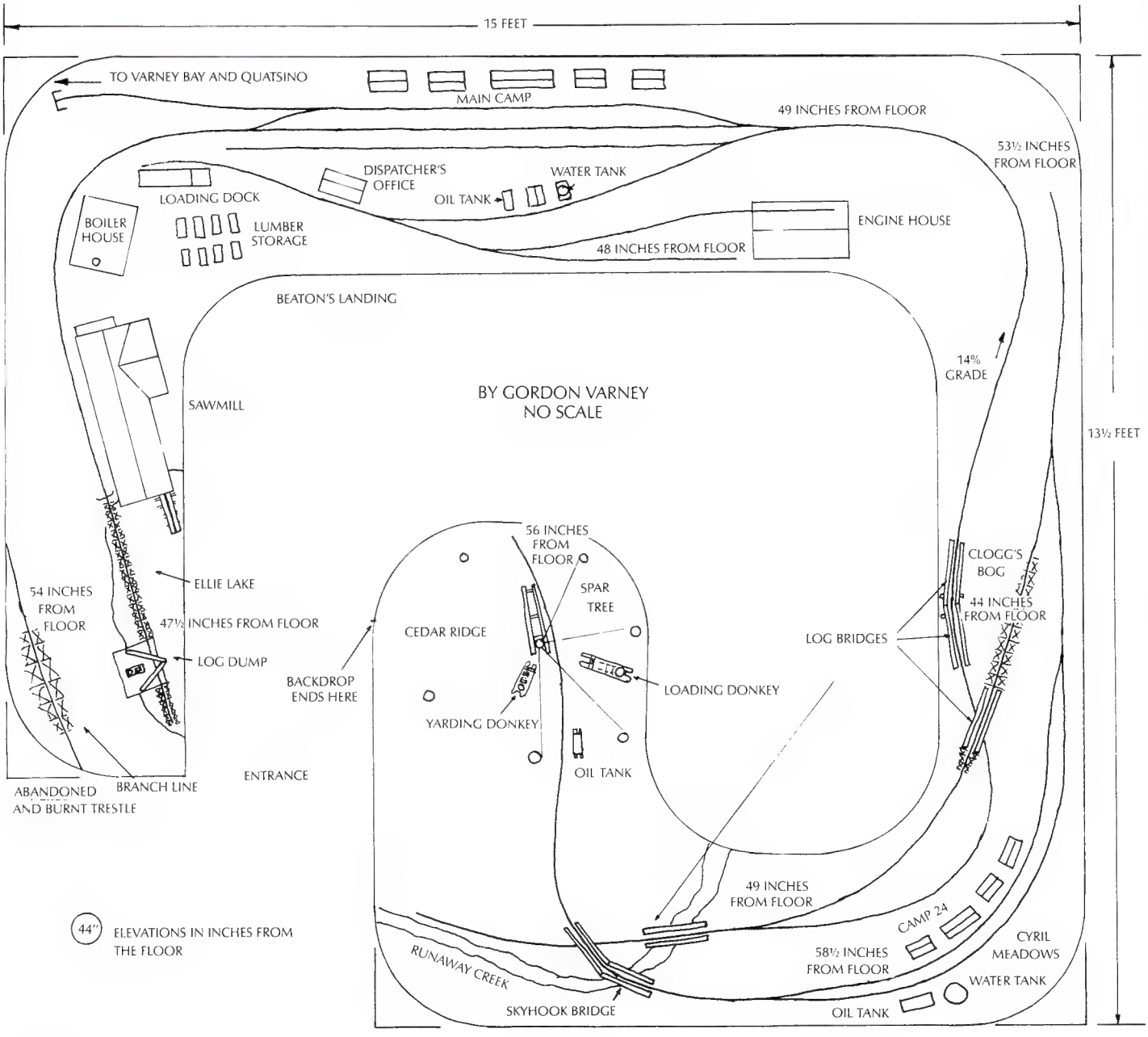
As noted in last issue's "Robert's Ramblings," Tie & Timber Short Lines is a fellowship of three Canadian modelers: Tom Beaton, Gordon Varney, and Cyril Meadows, who contribute occasional pieces to the ***GAZETTE*** *about their modeling adventures.*

In the last issue, Tom Beaton told the story of his On3 Broak & Kantifordit Tie & Timber Company. I remember the very moment when Tom told me he was switching from HO to O scale. I exclaimed, "You're nuts! Why O scale? You don't have enough room." But I also remember saying, "Well, if you're serious, I'm going to build an On3 Kemtron Shay so I'll have something to run on your layout." Little did I realize that while I was building the Shay, narrow gauge fever would strike me and I would end up converting from HO scale to On3.

I started my On3 model of the Cedar Ridge Mine & Timber Railway in 1979 with the help of Tom and Cyril. Tom painted most of the excellent backdrop, and Cyril did the wiring. Both have helped with the scenery and structures. The trackwork is almost complete and the scenery is about 75 percent complete.

My interest in logging began when I was in my late teens, and went to work for my dad's small "gypo" (contracted) logging "show" at our family homestead on Varney Bay near the north end of Vancouver Island in British Columbia. I was employed primarily as a "cat skinner" (tractor driver), but I did virtually every other job in the camp, even some rigging on the log loaders.

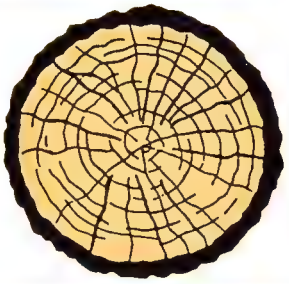
CEDAR RIDGE MINE & TIMBER COMPANY



Sunday morning at Beaton's Landing with the motive power simmering in the yard.

Cedar Ridge Mine & Timber Company # 3 drags a loaded train towards the dump at Ellie Lake. This Kemtron Shay was the author's first On3 model.

Cedar Ridge Mine & Timber Company # 2 picks up a load at the spar tree on Cedar Ridge. The spar tree is a fully and correctly rigged high-lead system with a hay rack loading boom. A two-drum donkey engine runs the high-lead yarding and a three-drum donkey operates the hay rack loading operation.



An overall view of the Cedar Ridge mill. The model consists of home-cut stripwood and C.H.B. machinery.

Later I worked for several sawmills in the Vancouver area. So when I decided to build a model railroad, naturally I chose to model a logging line.

My On3 Cedar Ridge Mine and Timber Company is a small operation located in a Pacific Northwest rain forest. It supplies lumber for export, and ties and timbers for the local mines. Since the area is very mountainous, switchbacks are required to reach the high elevations where the best timber grows. The resulting steep grades (14 percent in one short stretch) severely limit the length of my trains, allowing me to model in O scale in a room only 13½ x 15 feet.

As shown in the drawing, my main camp is located at Beaton's Landing on the north shore of Ellie Lake. The main camp consists of a small steam operated sawmill and lumber storage area, bunkhouses and living facilites for the crew, and an engine house for service and repair of the motive power and rolling stock used on the line. Switching around the mill is handled by a small 16-ton Tee boiler Shay, purchased from the Michigan-California Lumber Company, and a 25-ton G.E. Diesel rescued from the scrap heap and reconditioned by the resourceful head mechanic of the Cedar Ridge Mine & Timber Company.

The mainline trains are handled by two class B Shays and a 42-ton Climax. Top management recently purchased an almost new 65-ton, class C, three-truck Shay to better tackle the steep grades. However, it sees little use because the 35-pound rail on the mainline is too light and there are no funds available to buy heavier rail.

After leaving Beaton's Landing the mainline wanders out through Clogg's Bog, crosses creeks on log bridges, and utilizes switchbacks to wend its way up to Cyril Meadows and Camp 24. Camp 24 is the transfer point where empty disconnected log cars, short skeleton cars, and 24-foot flatcars are loaded and coupled up for the return trip to the mill at Beaton's Landing. At Camp 24 several homemade boxcars unload their supplies, and tankcars loaded with fuel oil for the engines have their loads pumped into the trackside oil storage tanks.

The mainline continues on to Cedar Ridge, crossing Runaway Creek over Skyhook Bridge. At Cedar Ridge there is a fully-rigged spar tree equipped with a hay rack loading boom for the high-lead yarding system. There are two steam-powered donkey engines here – a two-drum engine that does the yarding, and a three-drum engine that does the loading. A 16-ton Tee boiler Shay from Camp 24 does the switching.

I used code 70 rail (salvaged from my old HO gauge layout) hand-laid on homecut ties. (I now wish I had used code 83 rail on the mainline and code 70 rail on the sidings.) All of my turnouts were built in place on the layout, and all are hand-operated using homemade switch machines. On3 Kadee couplers are used with their uncoupling pins removed (they are uncoupled with a small modified screw driver).

The layout is controlled by a PFM Mark II sound system that was modified by P-B-L, and has two homemade, hand-held, transistor throttles.The layout is divided into three blocks: one for Beaton's Landing, one for the mainline, and one for Cyril Meadows and the loading spur at Cedar Ridge. Although small, the Cedar Ridge Mine & Timber Company line can keep three operators very busy during a typical operating session.

My motive power includes the Kemtron Shay that started the whole thing, an Iron Horse 16-ton Tee boiler Shay, a 26-ton Silver City Shay (built-up from a Precision Scale Company kit), a modified Michigan-California #2 (built-up from PSC parts), a Sunset 65-ton West Side #12 Shay, a Leetown 42-ton Climax, and a 25-ton Kemtron G.E. Diesel. Maintenance is handled by a Leetown work motor, a Revell Model T converted to a speeder with a NorthWest Shortline Flea power unit, and a scratch-built firecar, also "Flea-powered."

The rolling stock is a mixture of kits and scratch-built flatcars, skeleton cars, disconnected log cars, and boxcars. Most of these cars follow West Side Lumber Company prototypes.

One of the nicer aspects of modeling logging railroads is that loggers were usually ingenious in solving problems so you can build almost anything, out of almost anything, and somewhere you can probably find a prototype for it. I have several innovative log trestles on my line based on equally innovative prototypes.

The spar tree and hayrack boom were scratch-built using C.H.B. parts. The sawmill was also scratch-built using home-cut scale lumber and C.H.B. machinery and is typical of the many small mills found in the Pacific Northwest. Cyril scratch-built the engine house and dispatcher's office from styrene.

I have recently negotiated with my wife, Elenore, to "lease" me one small corner of the family room adjacent to the layout, for an extension to tidewater at Varney Bay and the town of Quatsino. Construction of this extension is now underway; when complete it will allow timber to be delivered directly to tidewater at Quatsino for export and will provide a connection with the standard gauge Caribou Northern Railway (the name of my old HO layout).

Quatsino is built on two 2½- x 4-foot modules that form part of the Tie & Timber Short Line's portable modular layout shown in last issue's "Robert's Ramblings." Incorporating these modules into the permanent layout solves the sticky problem of where to store them when the portable layout is not being shown.

This concludes my description of the Cedar Ridge Mine & Timber Railway. I hope to follow soon with an article on the Varney Bay extension and the Tie & Timber Short Line modular layout.

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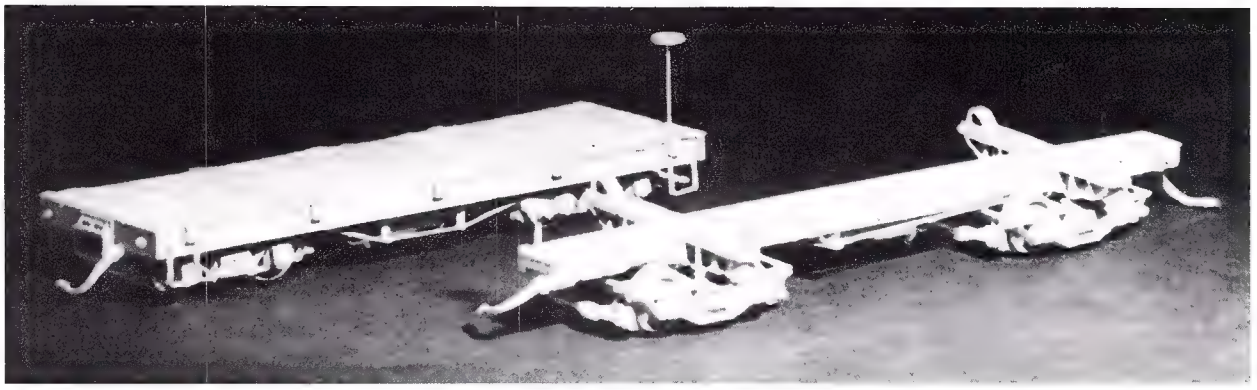

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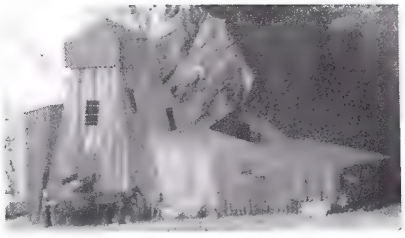

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ITEMS POST PAID IN DOMESTIC USA

KWIKITS BY HARRY BRUNK

CATERPILLER 60	16
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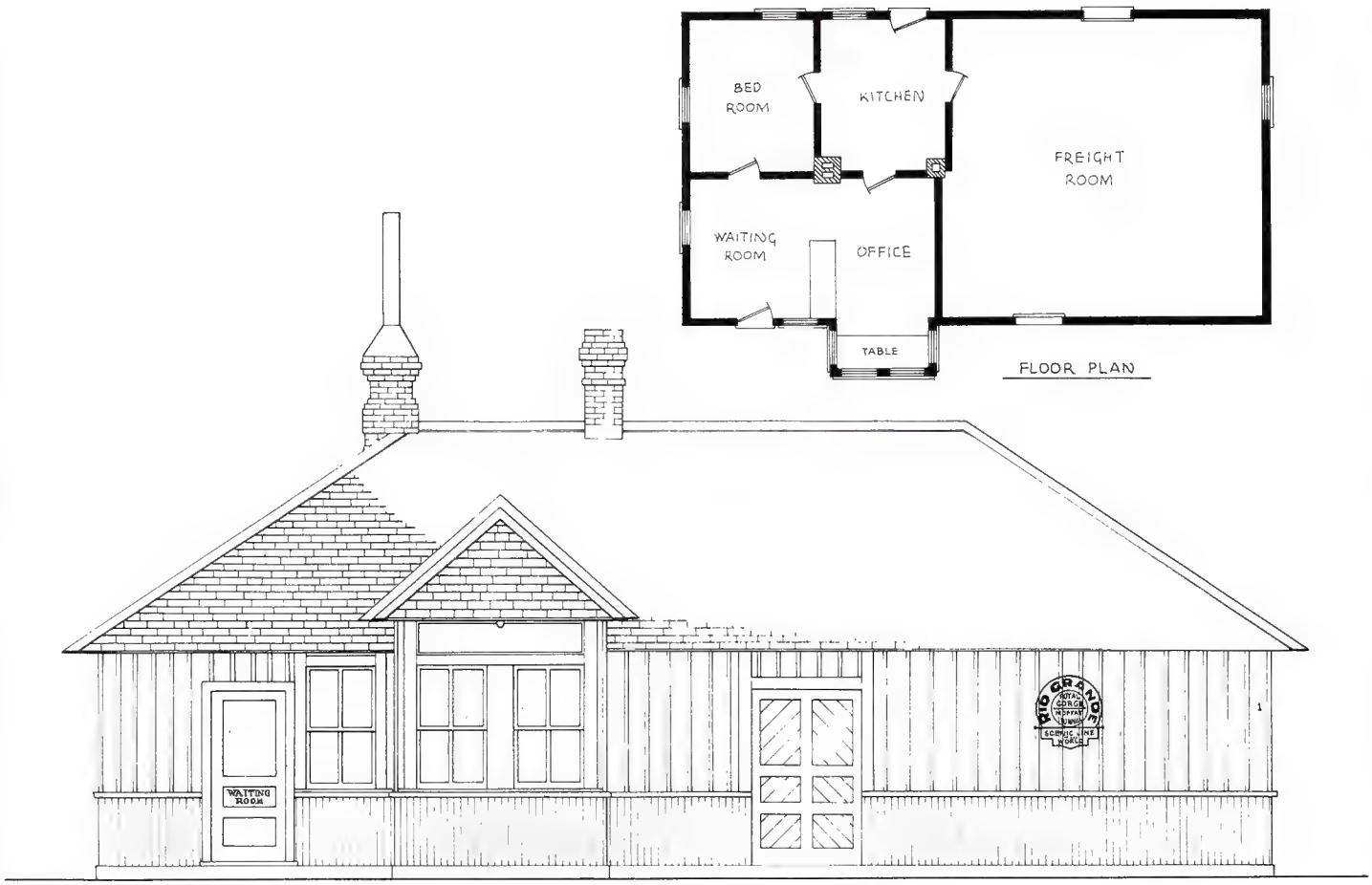
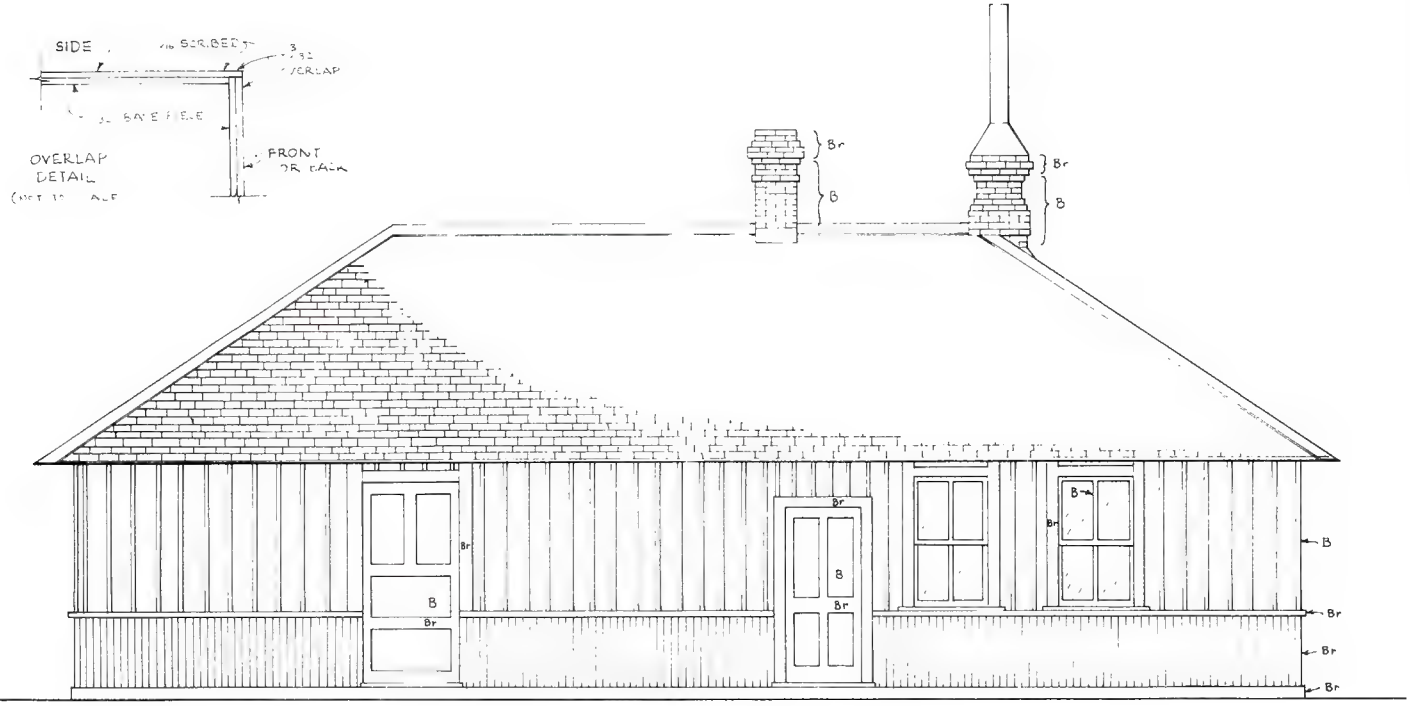
DON BROWN MEMORIAL SERIES

DENVER & RIO GRANDE

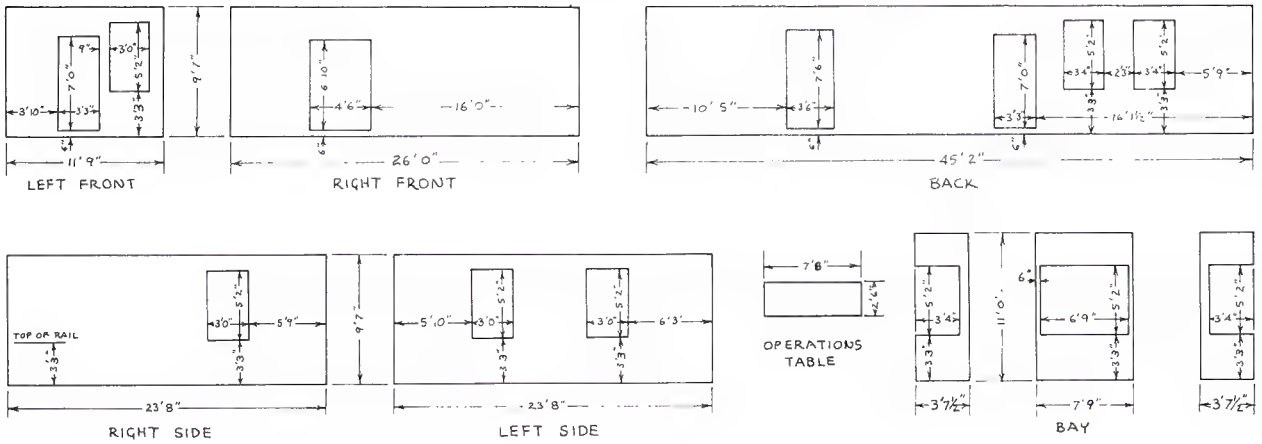
SARGENT STATION

BY W. J. EWELL
HO SCALE



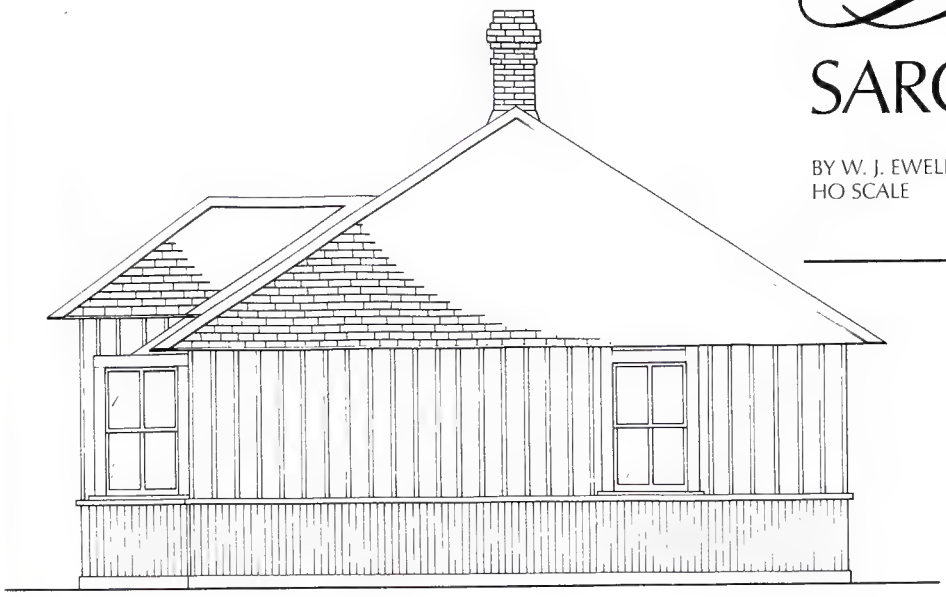


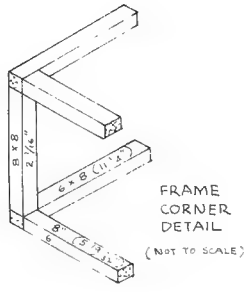
CUTTING DIAGRAMS



SARGENT STATION

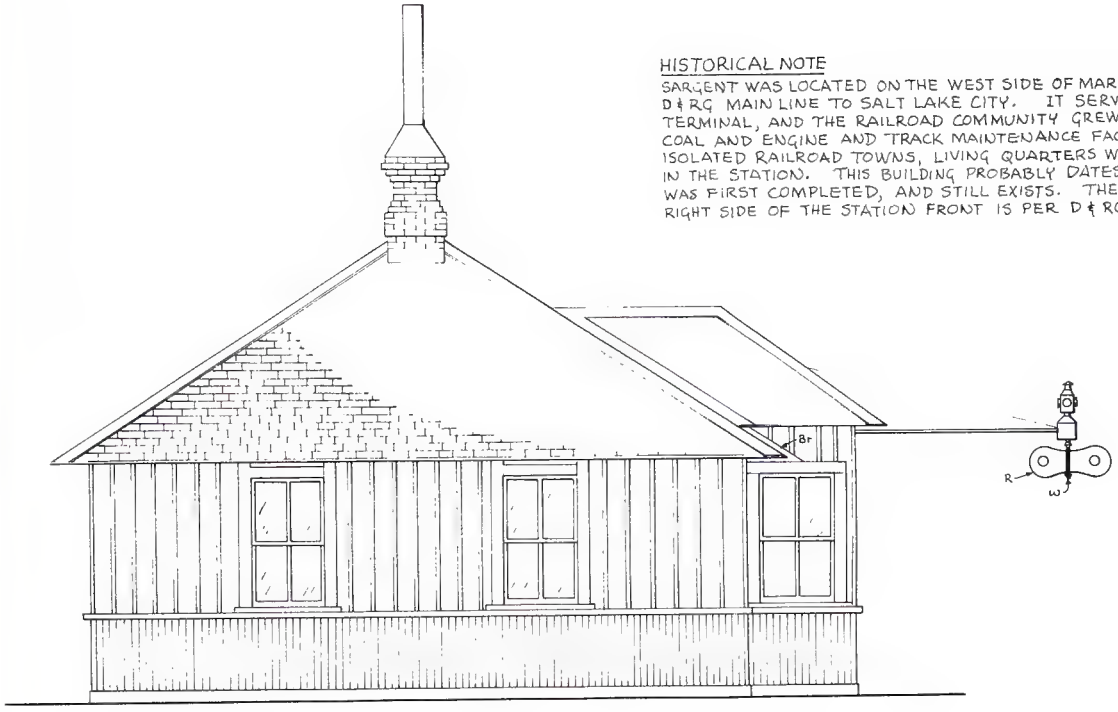
BY W. J. EWELL
HO SCALE

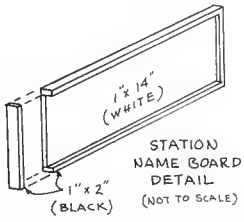


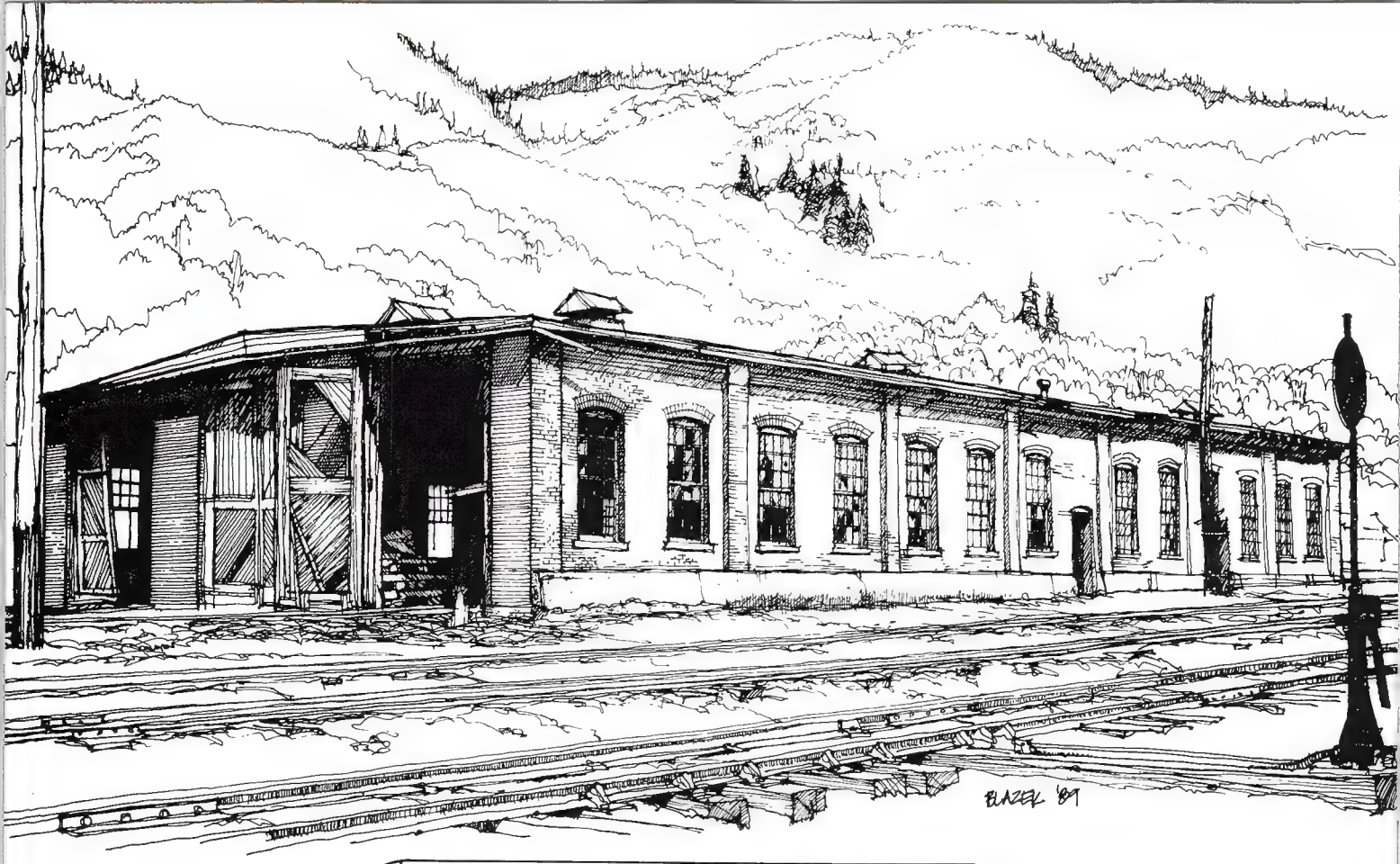


HISTORICAL NOTE

SARGENT WAS LOCATED ON THE WEST SIDE OF MARSHALL PASS ON THE ORIGINAL D & RG MAIN LINE TO SALT LAKE CITY. IT SERVED AS A HELPER ENGINE TERMINAL, AND THE RAILROAD COMMUNITY GREW WITH THE NEED FOR WATER, COAL AND ENGINE AND TRACK MAINTENANCE FACILITIES. AS WITH MOST OF THE ISOLATED RAILROAD TOWNS, LIVING QUARTERS WERE PROVIDED FOR THE AGENTS IN THE STATION. THIS BUILDING PROBABLY DATES FROM 1881, WHEN THE LINE WAS FIRST COMPLETED, AND STILL EXISTS. THE IDENTIFYING NUMBER ON THE RIGHT SIDE OF THE STATION FRONT IS PER D & RG PRACTICE.







BLAZEK'S
RIO GRANDE SOUTHERN

THE RICO ENGINE HOUSE

by Mike Blazek
Sketch and photos by the author

I was pleased when I finally completed my S scale model of the Rio Grande Southern's Rico, Colorado engine house because it meant that I had finally modeled every building in the Rico yard (as well as some of the adjacent non-RGS facilities). I was even more pleased when my model of the Rico engine house won First Place in Structures and the Best of Show at the 4th National Sn3 Symposium in Tucson, Arizona, in January, 1989.

The Rico engine house was unique among the structures in Rico because of its large size, its brick construction, and its almost flat roof. My evidence shows that the engine house was not used after the late 1930s – I modeled it as it looked in the 1940s, when no two stall doors were alike, and many were in such bad repair that they could not be opened or closed.

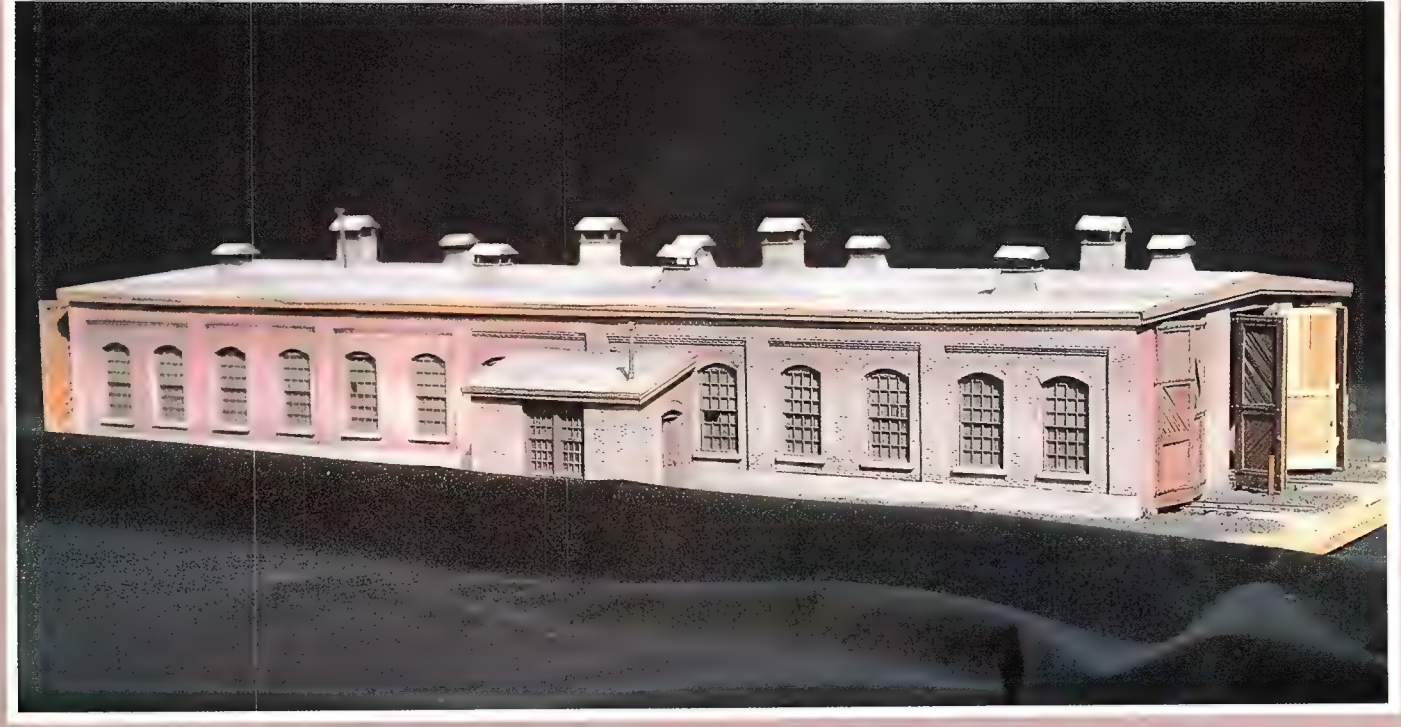
I wanted my walls to have the thickness of brick, so I cut them from a sandwich made of two sheets of very thin plywood glued to ⅛-inch spacers. Holgate & Reynolds brick sheeting was glued to both the inside and outside walls using Walthers' Goo.

The roof had to be removable so I could reach into the engine house in case of derailments and such, but this proved to be a problem because of the large size and low pitch of the roof. There seemed to be no way to get the two halves of the roof to keep their exact shape and slope until I built a sub-roof of very thin plywood. The underside of the plywood roof is planked and has all the exposed joists glued in place. The smoke exhaust pipes and their canopies are part of the roof; it took a lot of planning to make sure that I could remove and replace the roof without having these canopies interfere with the posts and beams inside the engine house.

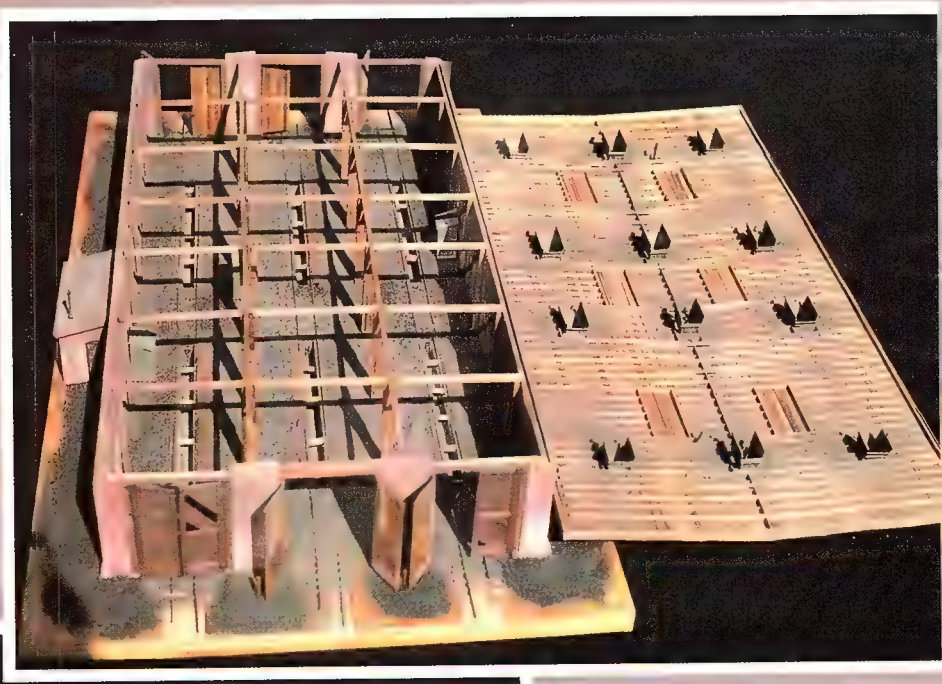
I modeled the differences in the engine stall doors, because they add greatly to the appearance of my model. Unlike the prototype, all of my stall doors operate.

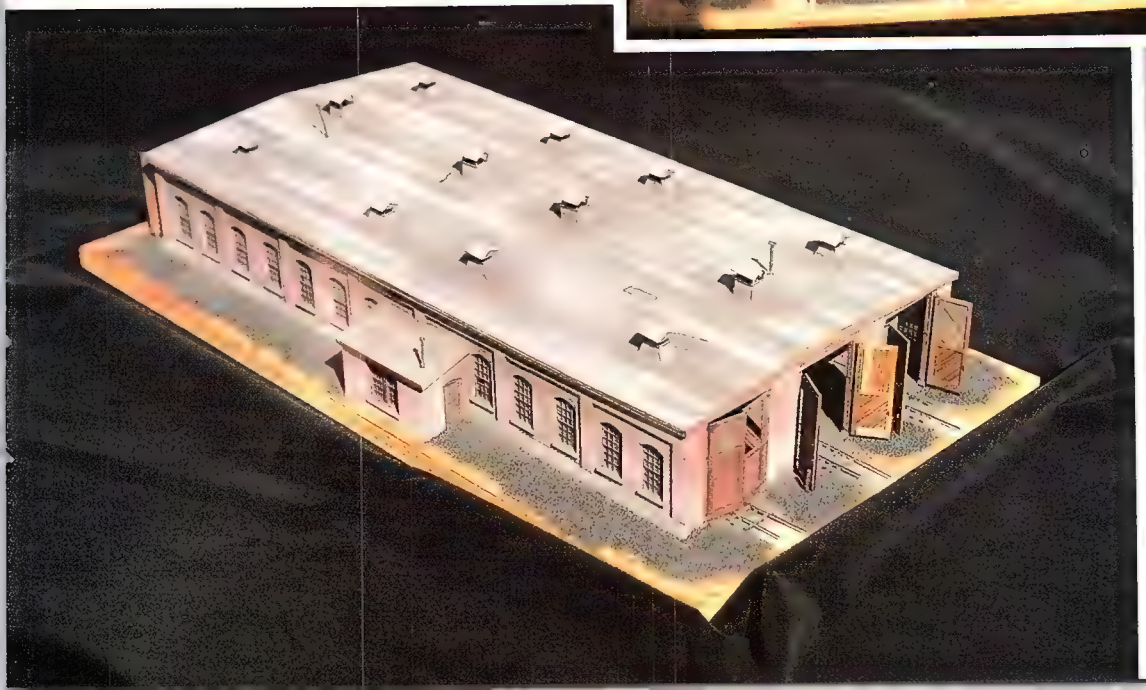
The brick sheeting was colored with several coats of brick-colored acrylic paint. Then a mixture of Floquil Gray and White was brushed on and wiped off so the color remained in the mortar lines. The roof was covered with pre-stained paper towels glued down with "tar" seams of white glue colored with Floquil paint. The model was then dusted with a generous amount of powdered coal and powdered paint.

This engine house is an important and imposing structure piece for my Rico yard facilities. Next, I'll head up over Lizard Head Pass and get to work on something on the north end of the Rio Grande Southern.



Blue
Ribbon





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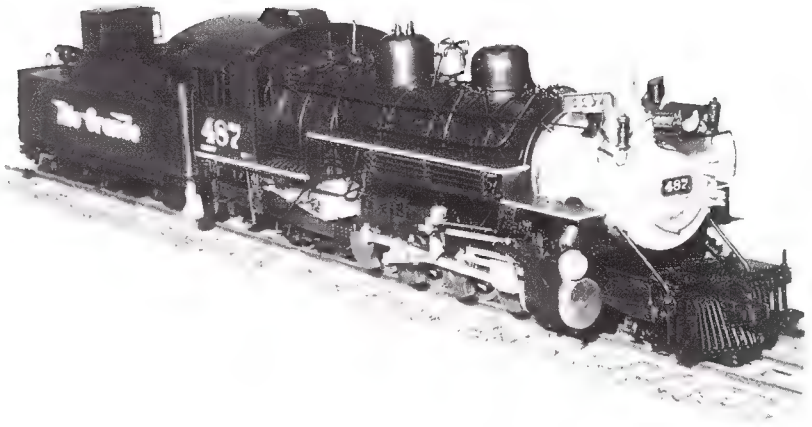

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COLORADO AND SOUTHERN NARROW GAUGE PASSENGER CARS
COMBINATION CAR #30 AND COACH #76

by Ed Gebhardt

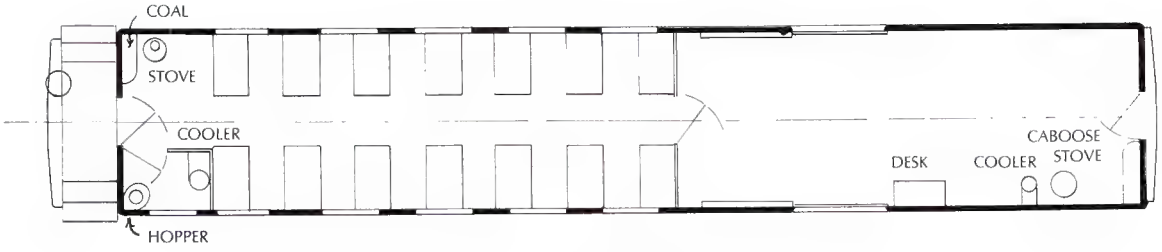
These drawings continue my series of plans of cars that could have been pulled by the Colorado & Southern Mogul that I drew for the May/June 1989 **GAZETTE**. In the last issue I drew C&S Baggage Car #1 and Postal Baggage Car #11. Like those cars, the two shown here, to my knowledge, have never been drawn before.

According to the C&S roster in Mallory Hope Ferrell's book, *Colorado & Southern Narrow Gauge* (Pruett, Boulder, 1981), Combine #30 was built by the famous street car builder, J.G. Brill in 1873, probably as a coach. She was rebuilt by the C&S in 1915, and served her last days as a tool car in Leadville, Colorado, where she was seen as late as 1959. A good photo of this car appears on page 208 of Ferrell's book.

C&S Coach #76 was one of three (74, 75, 76) built by the American Car and Foundry Company in 1902. They were similar to coaches 70 through 73. All three were rebuilt by the C&S in 1915 and lasted until abandonment in 1939.

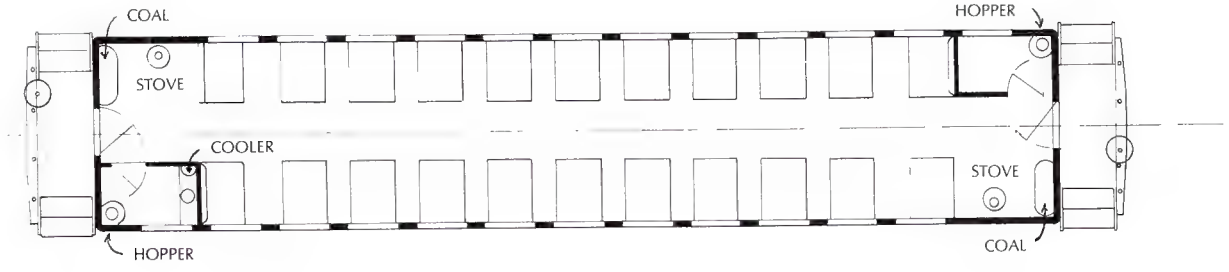
My drawings were made from C&S folio sheets obtained from the Colorado Railroad Museum some years ago. The major dimensions are shown but the details had to be worked out from photos. These plans should allow modelers to build accurate models of any of these cars.

FLOOR PLAN COMBINE #30



(⅛-INCH SCALE)

FLOOR PLAN OF COACH #76

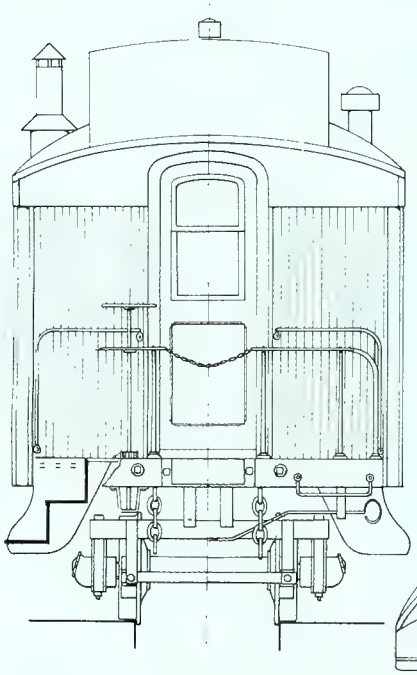


(⅛-INCH SCALE)

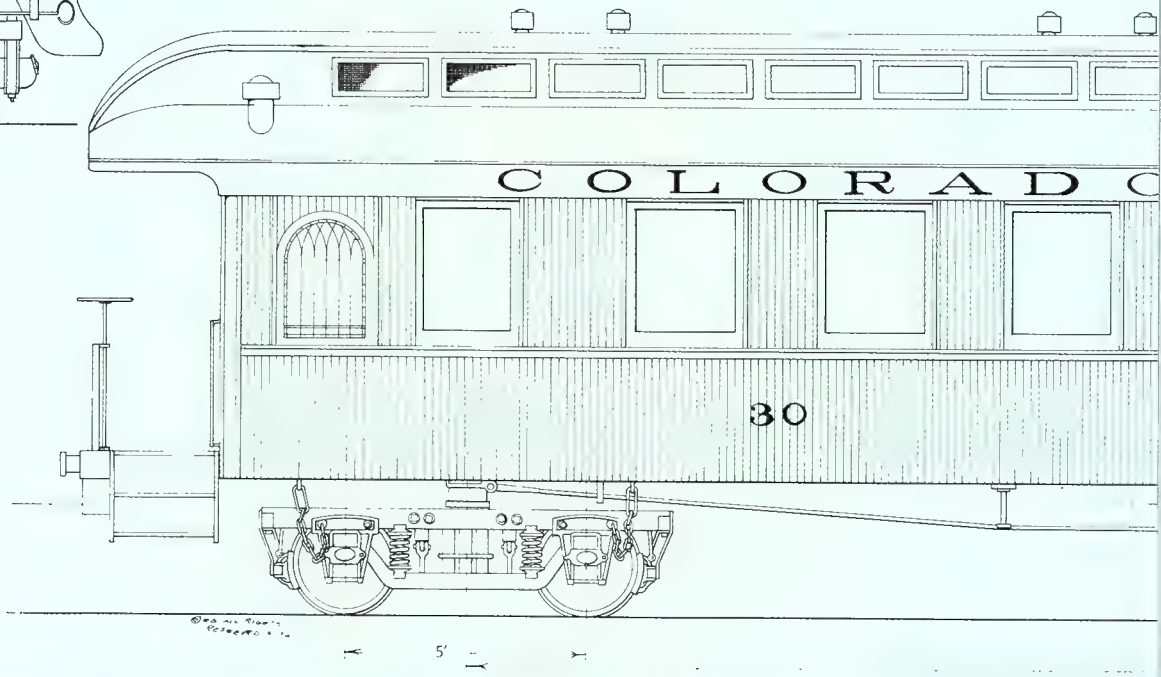
COLORADO AND SOUTHERN NA
COMBINATION CAR

by Ed G

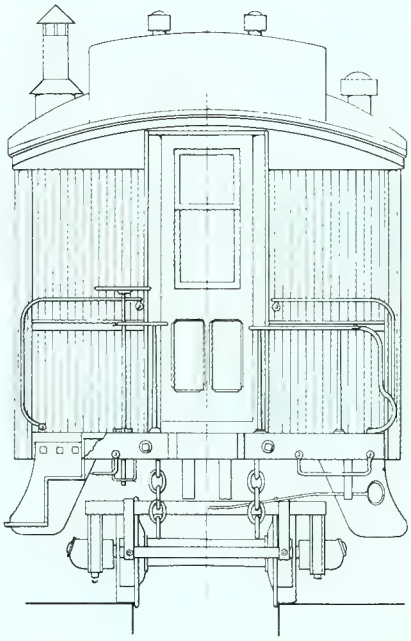
SCALE ¼ IN

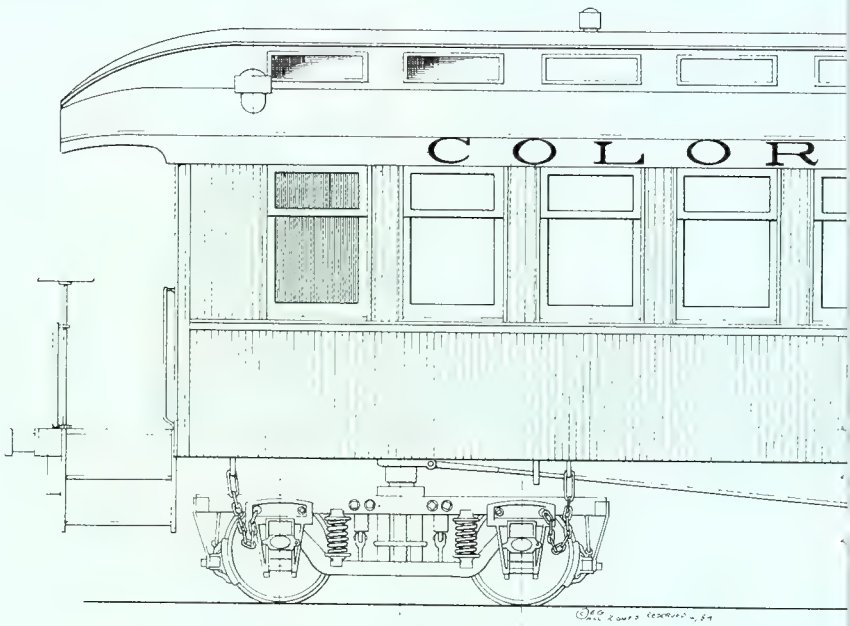


PASSENGER END



5'



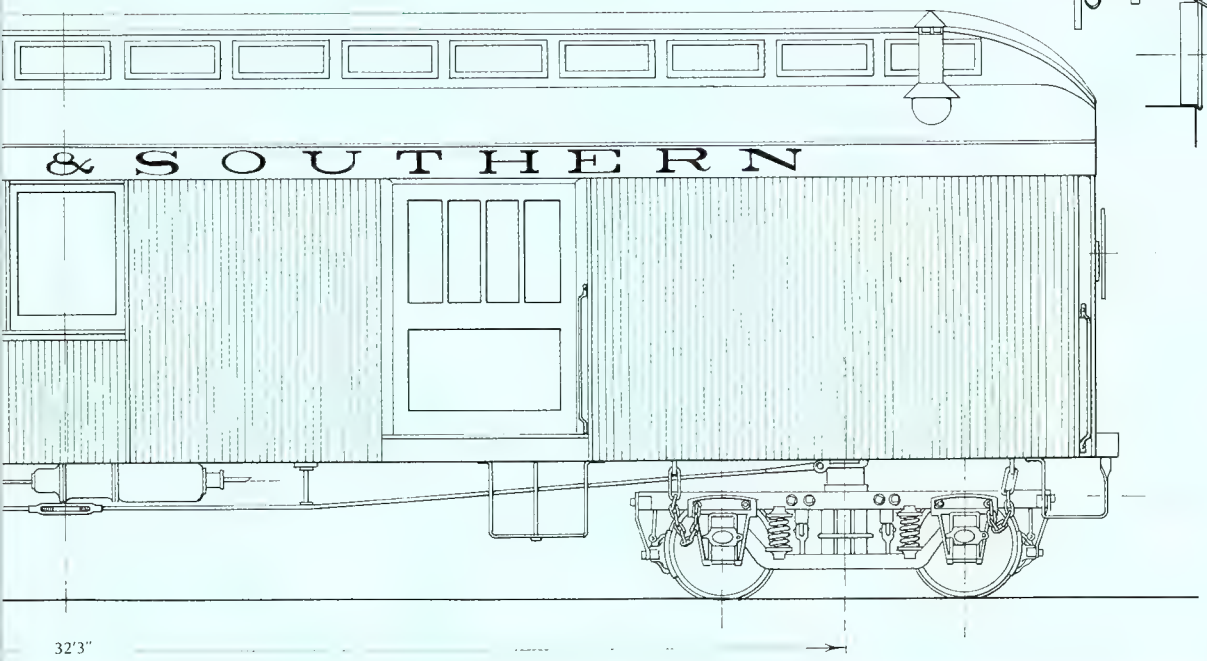


5'

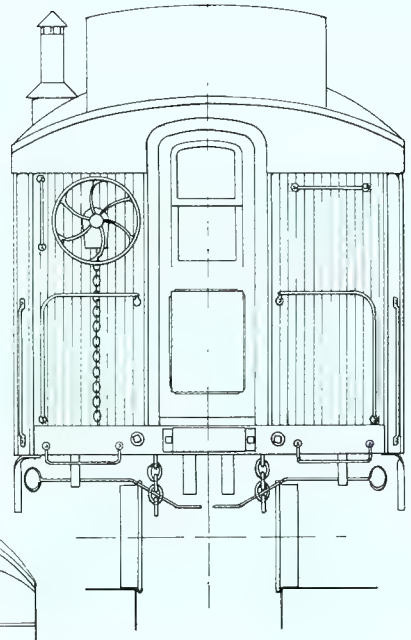
ROW GAUGE PASSENGER CARS
30 AND COACH #76

hardt

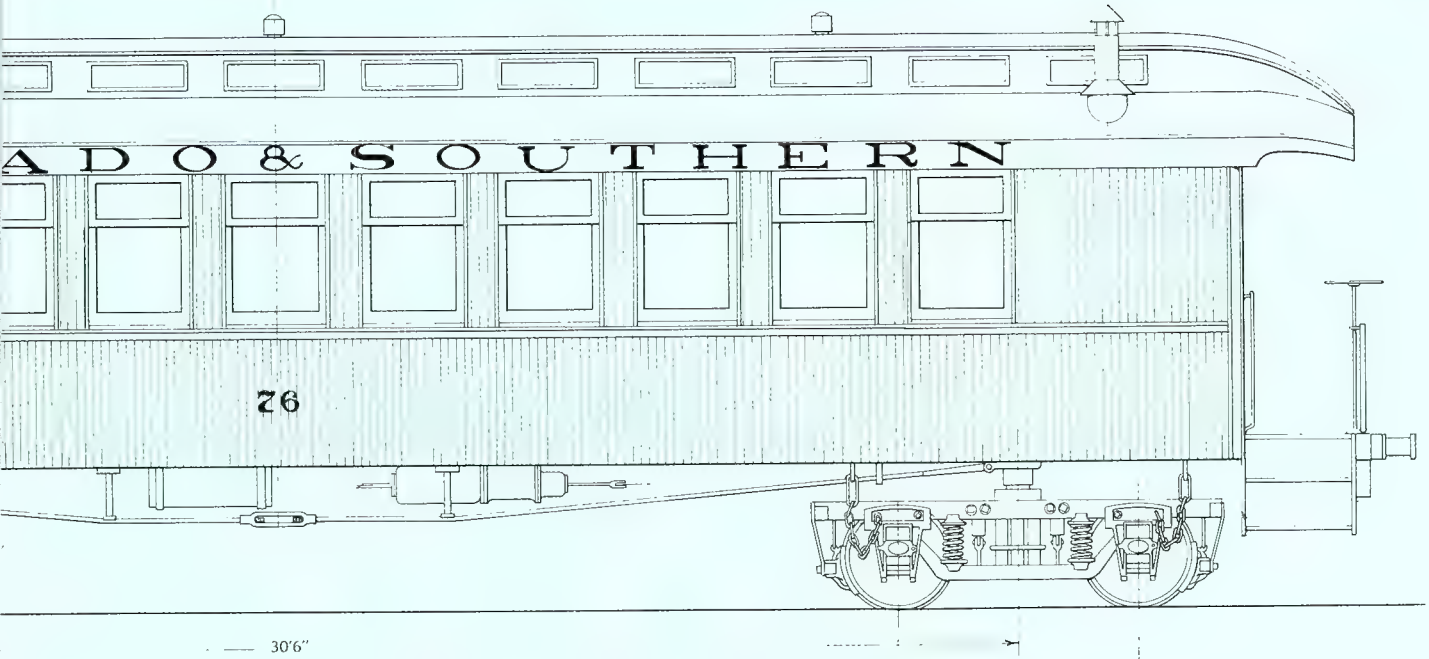
= 1 FOOT



32'3"



BAGGAGE END



30'6"

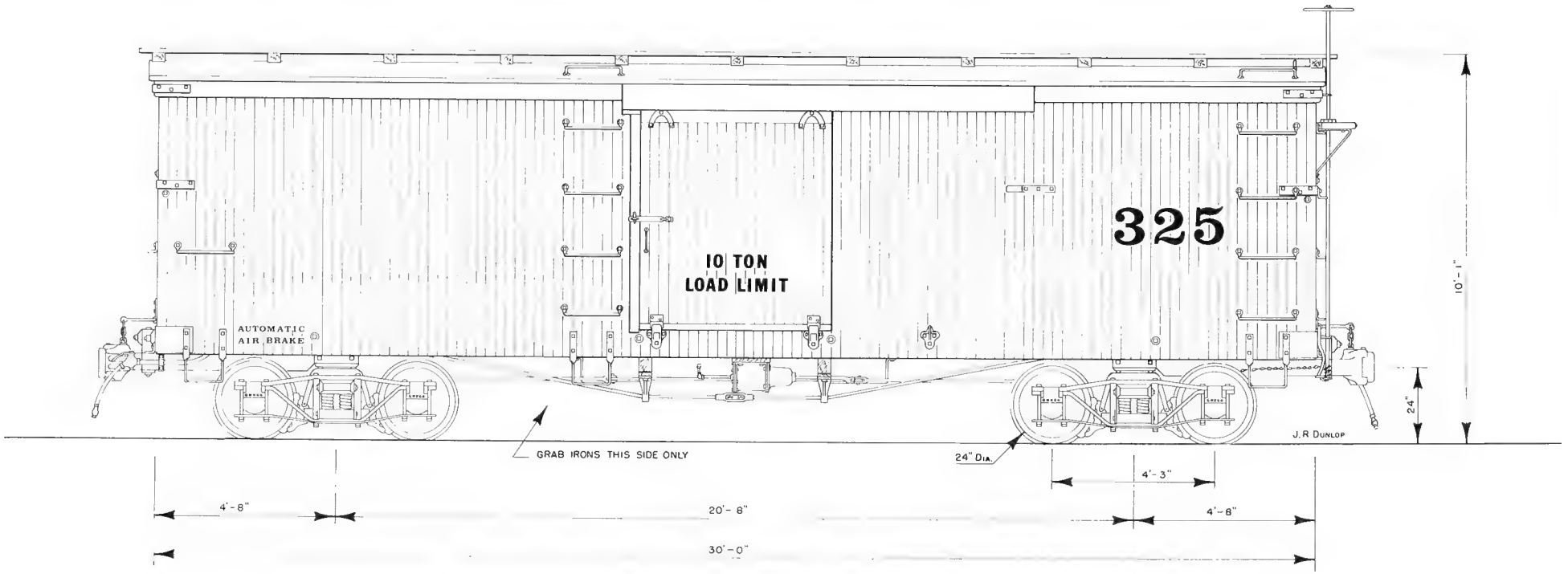
Oahu Railway and Land Co.

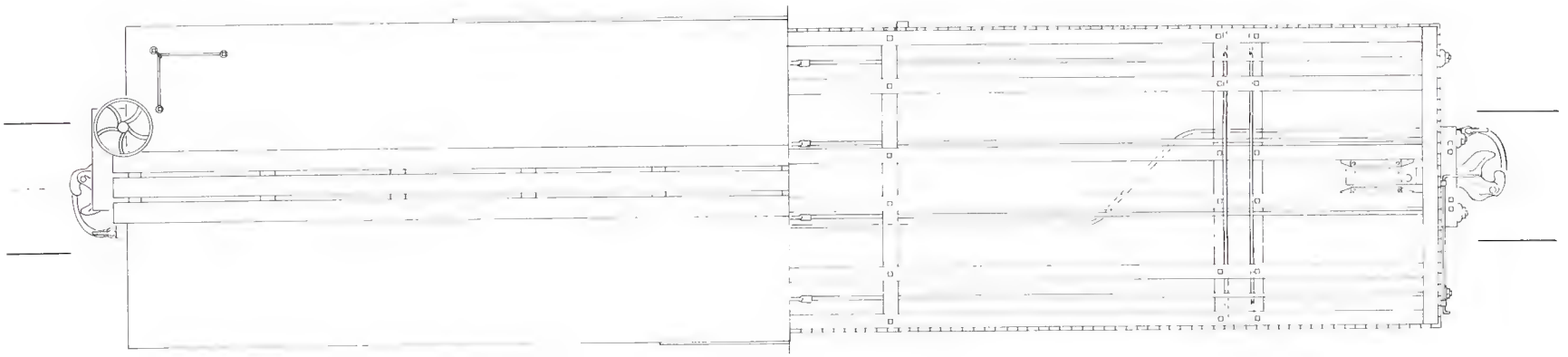
10 TON · 30' WOODEN BOX CAR NO. 325

10 9 8 7 6 5 4 3 2 1 0

SCALE ¼ INCH = 1 FOOT

Plans drawn by Jim Dunlop, compliments of
the Oahu Railway and Land Company





SEE OAHU BY RAIL

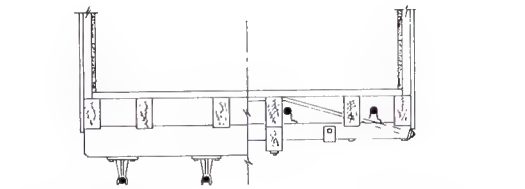
COAST LINE OAHU SCENIC ROUTE RAILWAY

10 TON · 30' WOODEN BOX CAR NO. 325

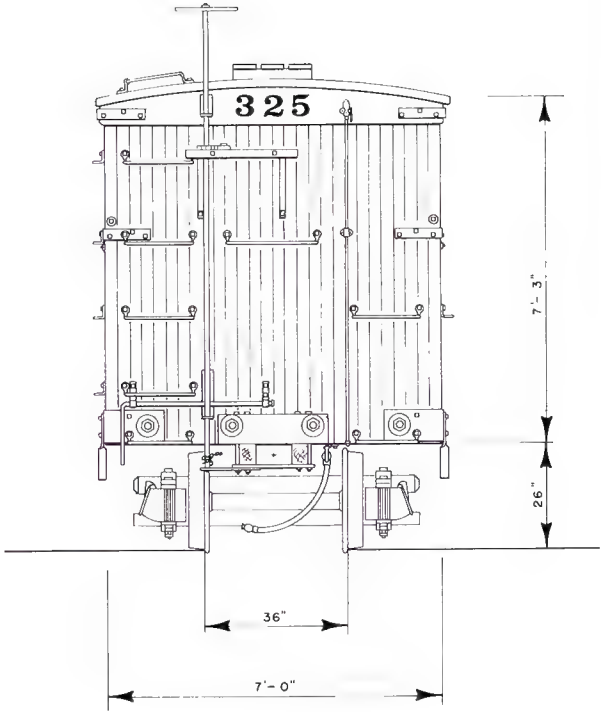
10 9 8 7 6 5 4 3 2 1 0

SCALE ¼ INCH = 1 FOOT

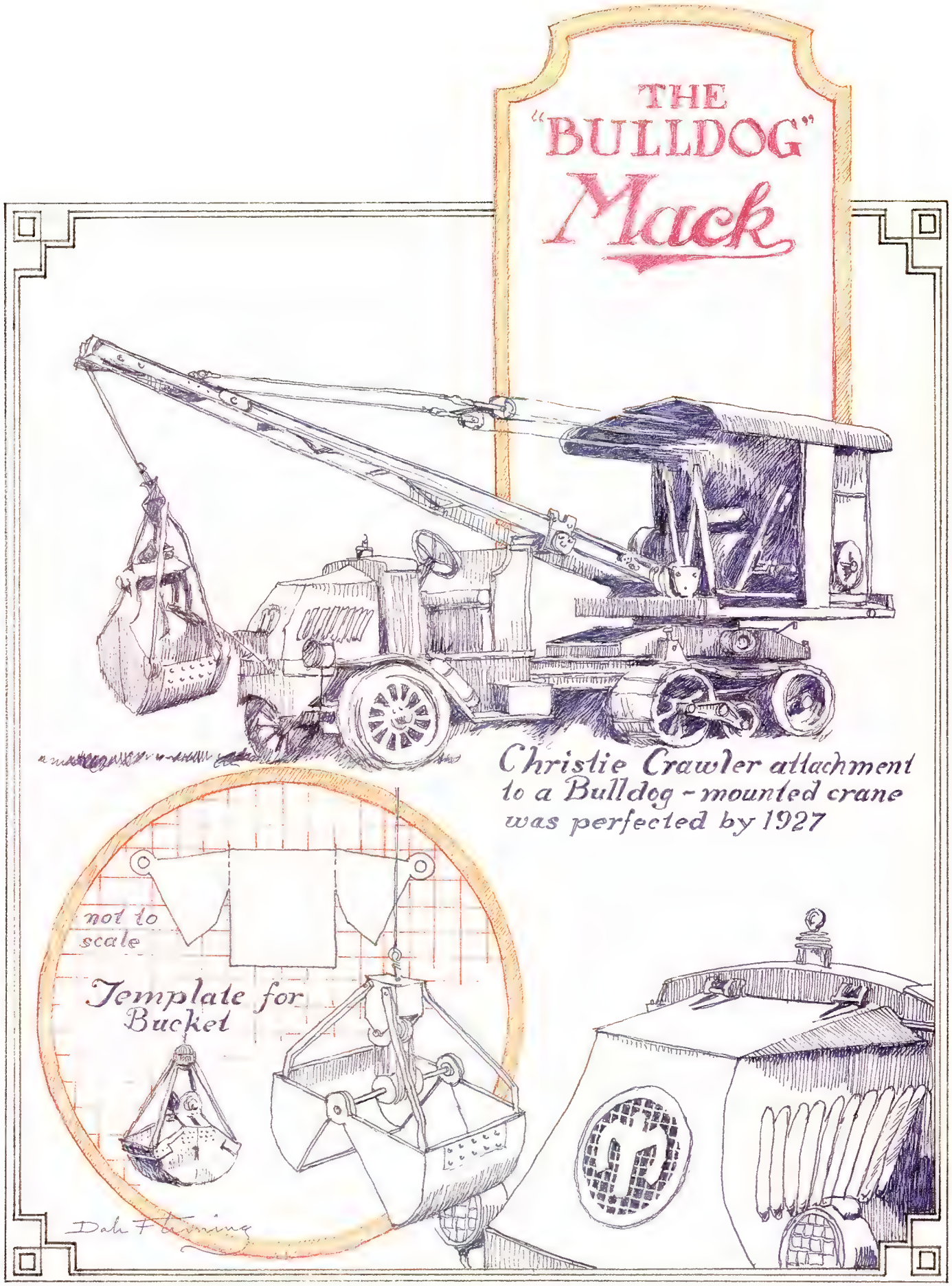
Plans drawn by Jim Dunlop, compliments of
the Oahu Railway and Land Company

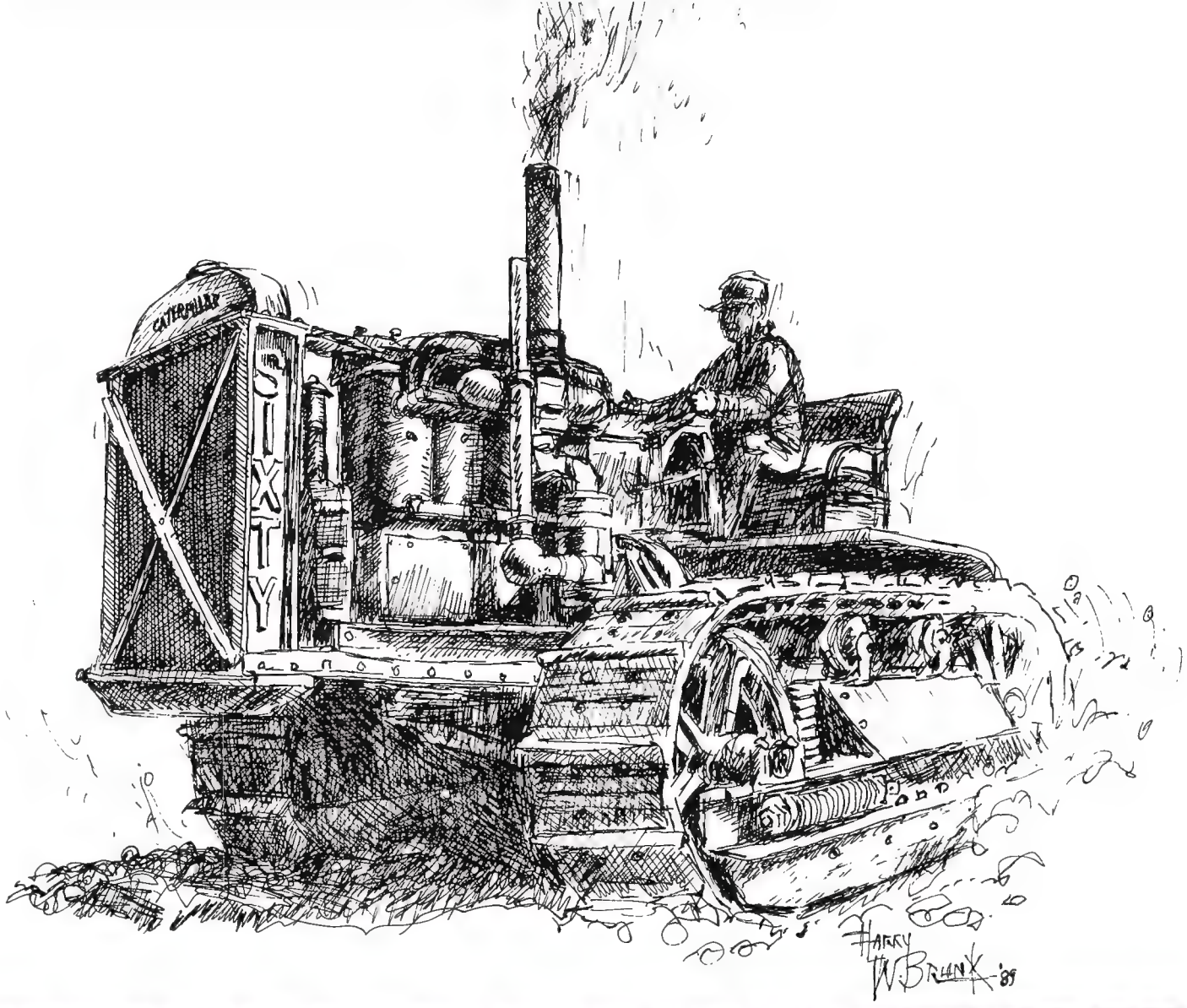


FRAME DETAIL



Oahu Railway and Land Co.


THE
"BULLDOG"
Mack
Christie Crawler attachment
to a Bulldog-mounted crane
was perfected by 1927
not to
scale
Template for
Bucket



Up Clear Creek on The Narrow Gauge

Part 58: The Caterpillar Connection, Part 2

by Harry Brunk
Model photos by the author

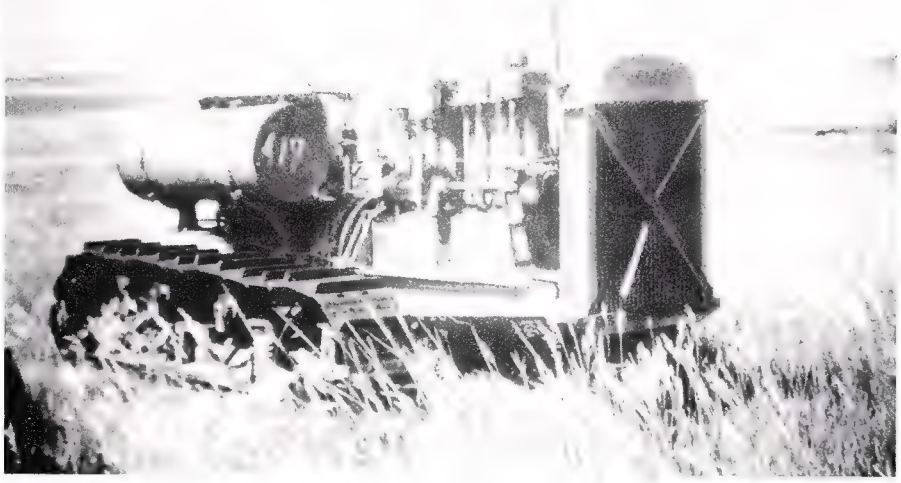
In Part 1 in the last issue, I discussed the history of Best, Caterpillar, and Holt tractors. I am sure that if the first 1920s vintage prototype tractor I came across had been a 10-ton, or some other early tractor, instead of a Caterpillar 60, I would have modeled it. As it was, the Caterpillar 60 matched the Best 60 that I was already familiar with so well, that modeling these tractors became an obsession with me. The problem was how to justify so many on my UC&N layout.

The mid-1920s to mid-1930s were hard times in the Colorado mining districts. By 1924 a decade of deep depression was ending, but mining didn't go into an upswing until 1929 when the Roaring Twenties came to a crashing end.

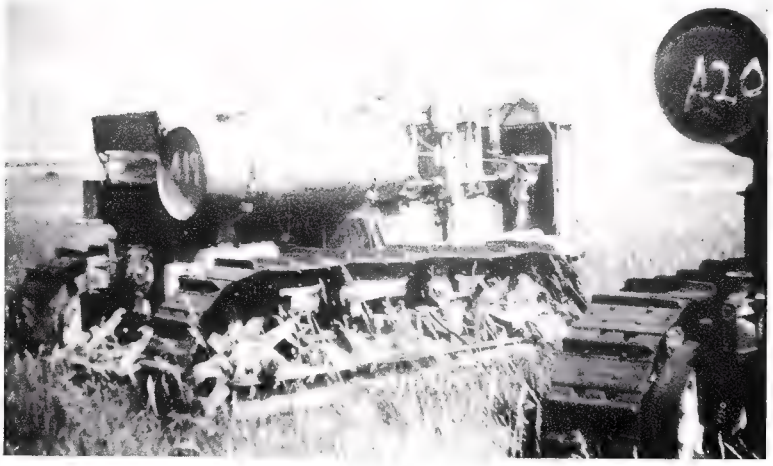
Even in my era in the 1930s, with mines re-opening and tonnage on the Clear Creek line steadily increasing, money was tight. My fascination with Caterpillar and Best 60 tractors left me with the desire to show them off as flatcar loads as often as possible, but shipments of new crawlers to customers on the Clear Creek line were rare due to the economy. If I had modeled a logging railroad, things would have been fine – logging lines moved their tractors frequently. Not so on the Clear Creek line where ore and general merchandise were the common loads. The Colorado & Southern moved their Cats for maintenance purposes, but I wanted reasons to move Cats around more often.

I was in a quandry – I needed some built-in excuses to ship Cats on flatcars. I

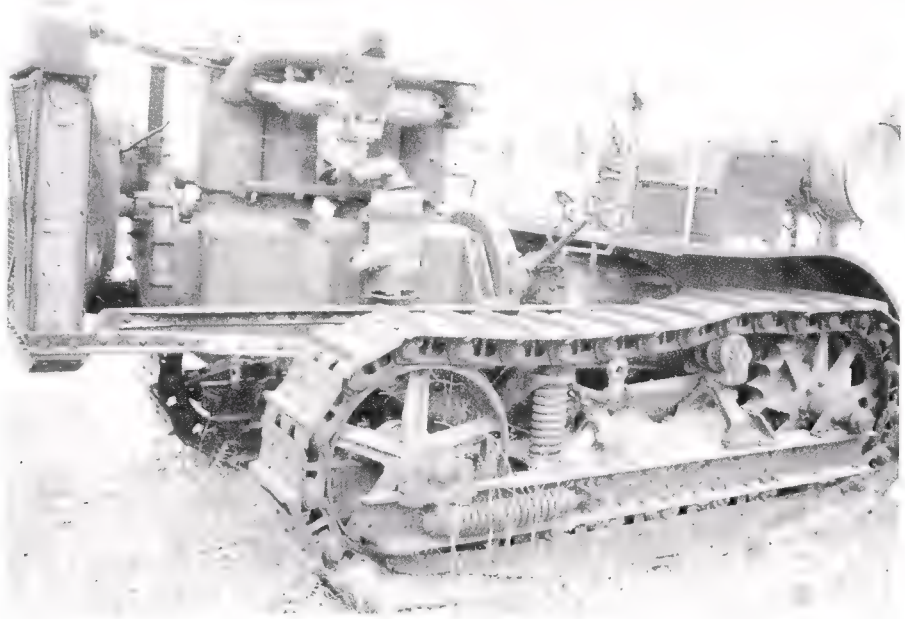
Title Illustration: The X-braced radiator and wide-open engine were hallmarks of the Caterpillar 60. Other details might vary, but along with the big "SIXTY" down the side of the radiator, these hallmarks make identification easy.



This placement of the gas tank to the right of the driver has been the one most commonly found by the author on Caterpillar 60's. The track shield and exhaust pipe have been removed. Otherwise this Cat is fairly complete.



Another view of the Cat in the photo above shows the rear of another Cat on the far right with its gas tank mounted on the left of the driver.



This tractor has many missing parts but it is the only one with a rear-mounted gas tank that the author has ever found. The rear fenders were a stock item and were usually removed. The slots in the flywheel, between the engine and the operator, were for bars used in starting the engine. The Caterpillar 60 had no other cranking arangement.

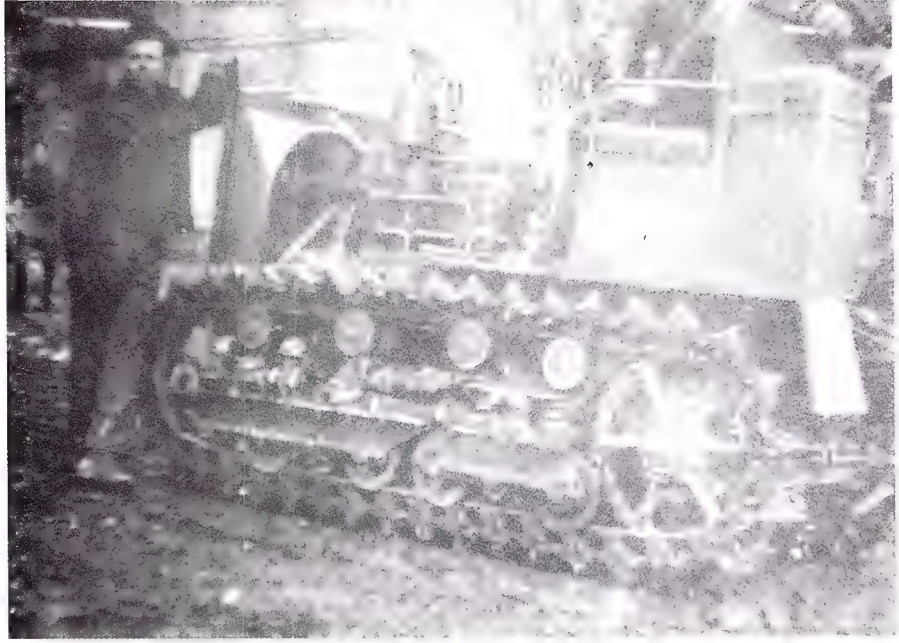
finally found them in the activities of George Strohele's Black Hawk Boiler Works (January/February 1981 **GAZETTE**) and the Idaho Springs Machine Works (July/August 1984 **GAZETTE** – out of print). Both hustle for business, and in the process, they're keeping up with the times by providing sales and service for electric and gasoline motors and related equipment – including tractors. Although I probably keep these two outfits busier repairing Cats than the prototypes ever were back in the 1930s, there are now enough reasons to move Cats around my layout to keep me happy.

The variations in details between individual tractors can be interesting. The gas tanks on these tractors were presumably placed on the right of the operator; however, it is almost as common to find them on the left. I have even found an oddball with the tank behind the seat. The tractors came from the factory with rear fenders which were almost always removed. The throttle was sometimes mounted on the side of the gas tank, but sometimes it had its own little stand – variety is the key word when modeling these tractors. It seems Cat skinners and/or their maintenance people were not shy about changing things around. This has given each 60 I've seen a feeling of individuality while still retaining the basic big 60 look.

Loggers seemed to grasp the advantages of crawlers over horses sooner than most railroad men. In their March/April 1988 **GAZETTE** article "Cats and 'Kittens," Dick Shapiro and Harry Bonham showed some of the loggers' ingenuity in modifying these machines to get the work done. Bill Roy, publisher of TIMBERBEAST magazine, sent me a back copy (Fall 1987, Vol. 6, #3) that told in words and pictures how popular the Best/Caterpillar 60 was But long before Best introduced the 60 in 1919, competitor Holt had crawlers gaining reputations in the woods wherever "sure-footed" power was needed.

The Holt Company was large and better financed than Best. Gaining the inside track for government contracts, Holt was a major supplier of army tractors. In reality, Holt had convinced the army to buy its tractors before World War I so that both the tiller-wheel tractor and all the tracked Holts were in the army inventory. **GAZETTE** author, Rick Steele's grandfather was in the A.E.F. (American Expeditionary Force) in France, and operated the Holts seen here. In his outfit, when the caissons went rolling along, they were hauled by Holt tractors.

In their fine article, "The Broughton Lumber Company Flume and Railroad" in the November/December 1988 **GAZETTE**, Duane Ely and Tom Pomeroy tell us that, "By 1930 the Broughton Lumber Company had purchased its first gasoline-powered tractor, a World War I vintage Holt tractor." This tractor could have been like the ones shown here or one of the tiller-wheel versions shown in Part 1 in the last issue. Both were in the army inventory, although



These photos are from Rick Steele and show his grandfather and the tractors used in his A.E.F. outfit in 1918 during World War I in. A photo in Rick's collection of a French tank showed very similar tracks, though more elongated.

Caterpillar 60's as modeled on the UC&N have many of the variations in details found on the prototypes. On the right is a left-hand mounted gas tank with a cut-down operators platform. On the left is an unusual rear-mount gas tank. Most of the author's Cats are equipped with bulldozer blades for mine and maintenance-of-way work on his layout.

the tiller-wheel versions were soon phased out.

As a scenic detail, a Caterpillar adds interest, whether as a derelict or as a working tractor. Mine are working tailings and slides from one end of my layout to the other. One of my kit-bashed Best 60's is employed as a pusher for the less powerful trucks that can't make it up the ramp on their own at my Silver Plume ore dock. As flatcar loads they are a natural – even though the average narrow gauge didn't handle as many of them as logging roads did.

Even with the time spent on research and making patterns for casting Caterpiller 60's for myself, I'm still not close to knowing all there is about them. **GAZETTE** author, Jim Vail, answered one question for me in his KwiKit Cat 60 review in the May/June 1989 **GAZETTE** when he said that Cats went from grey to yellow after 1930. (An earlier letter to Caterpillar asking for this information failed to get an answer.) Jim informs us they were grey with black lettering before 1930. Most of the survivors I've found were yellow, with one grey exception. However, two others did show some grey under their yellow.

The gasoline Caterpillar 60 even survived after the Caterpillar Company brought out their Diesel 65 which looked a lot like the Cat 60. The more economical Diesels took over the sales after that. The first 60 I saw had been in active service in county road maintenance well into the mid-1960s. Fully restored 60's still operate today, so the big cat still lives on.

In my next column I will take a close look at tankcar CONX #8.

STILL GETTING READY TO PAINT A BRASS ENGINE

by Jim Vail
Photos by Bob Brown

In the last several issues, I have been describing how to get a brass locomotive running smoothly before painting it. In the March/April issue, I discussed breaking in a locomotive and removing binds; in the May/June issue I discussed gear-caused binds and remounting motors, and in the July/August issue I covered interferences – things that touch when they shouldn't. In this issue I am going to review some of the basics of electricity and motors that you need to know in order to get your model locomotives running smoothly.

Motors

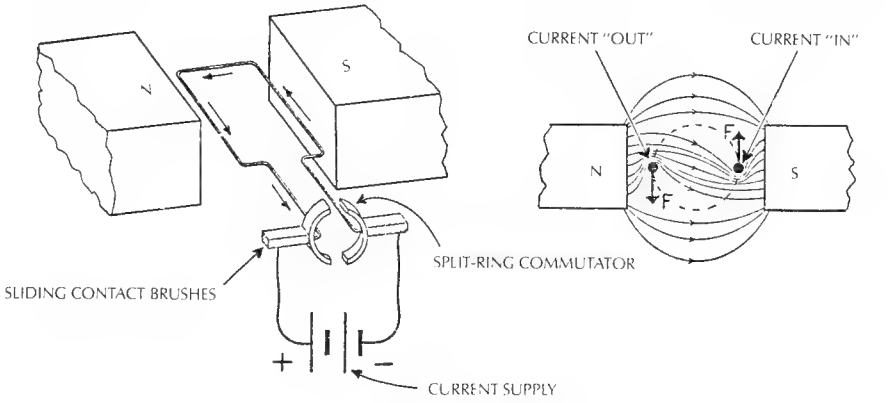
Most of the motors we use in our locomotives today run on 12 volts direct current (dc) maximum. However, in 1948 and earlier, many small locomotives had motors that only went to a maximum of 6 volts – today G scale motors go up to 18 volts. The dc motor operates by reversal of current direction in a loop of wire (the armature) which is free to turn between the poles of a permanant magnet (Fig. 1). When current flows through the armature wire in the permanent magnet's field, a force is produced, causing the armature to begin to rotate. As the armature turns, the current direction is reversed by a split-ring commutator rotating against sliding contacts (brushes). The reversed current in the armature again produces a force, causing the armature to continue to turn and so on. Three kinds of dc motors used in brass locomotives are illustrated in Photo 2: open frame, can, and coreless (also known as instrument or micro motors).

Open frame motors were once the most common motor found in model locomotives. They are called "open frame" because you can look right into them and see what is happening. Photo 1 shows an old open frame motor. The armature spins around in the center, the magnet has poles extending out over the top and bottom of the motor. The brushes and commutator are clearly visible. These motors are usually large, have a high current rating, and because of the large magnet, the armature tends to "lock" causing the motor to resist starting. They may also have lots of vibration and mechanical noise. However, they are powerful motors and it is fair to say that, though they start with a jerk, they can almost pull the plaster off the walls once they get going.

Can motors are used in many of today's model locomotives. These little motors have the same parts as an open frame motor but the parts are stuffed inside a little cylindrical can. Can motors are built with more precision than most open frame motors – they have better magnets, and their skewed armatures help them run more smoothly, and use less current than open frame motors. Because their current draw is low they have fewer problems with dirt and arcing at electrical contact points. Their speed is compatible with the older motors so they can be used as replacements for open frame motors. However, they are more delicate and do not tolerate abuse. Can motors come in a wide variety of sizes right down to 12 mm in diameter.

Coreless motors represent another kind of dc motor used in model railroading; they are sometimes called "instrument" or "micro motors." These motors are built inside-out – their magnets are in the center with the armature coils around them just inside the case. Built with the greatest possible precision, closest tolerances, and new "rare earth" magnets, they are more expensive than other motors. However, they run smoother and quieter, and have more power for their size than regular can motors. Some micro motors can be purchased with a range of snap-on gearheads, and some of the more expensive imported brass engines have these motors. Coreless motors are not compatible with most of the gearing found in brass engines, so you can't just snap one of them into one of your old engines. Also, they are a bit too long to fit in many small HOn3 locomotives. Paul Scoles and Lonnie Shay wrote two excellent articles on installing micro motors in HOn3 engines in the February and March 1976 MODEL RAILROADERs. These are "must-reading" for

Figure 1. The principle of the direct current motor.



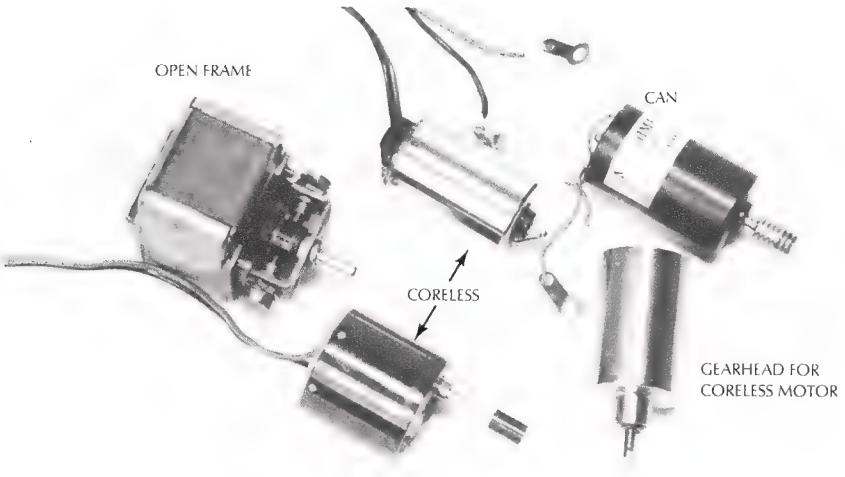


Photo 1. The three types of motors used in brass engines and a slip-on gearhead for a coreless motor.

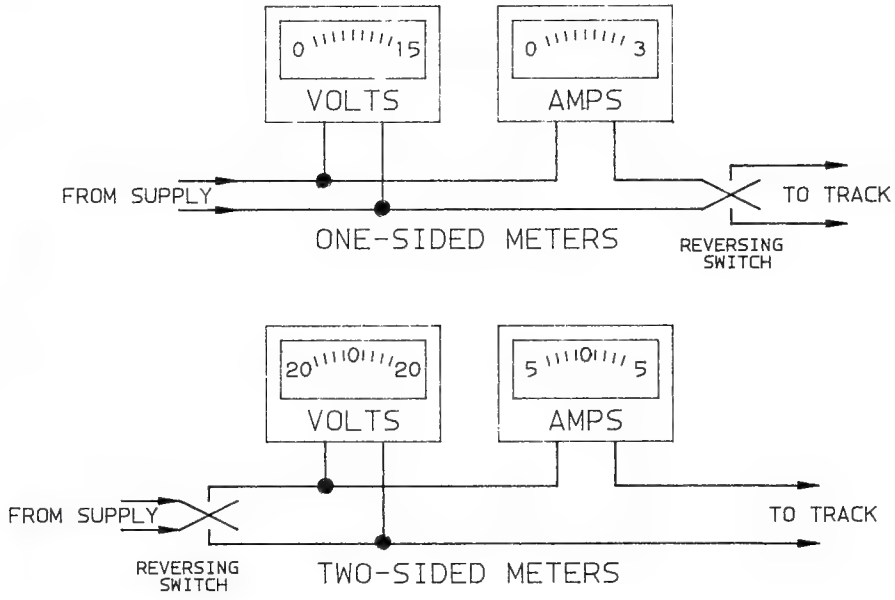
anyone who wants to replace his or her open frame or can motor with a coreless motor.

Power Supplies

You will need a power supply in order to test your brass locomotives before you paint them. The many power supplies on the market all have their place, but many are designed for running a layout, and are hard to use for testing locomotives and motors. Some have built-in momentum effects, or sound, or walk-around throttles, things you don't need for locomotive testing.

A power supply for testing should allow you to measure the starting voltage, the current range, and any fluctuations in voltage and current that may indicate possible electrical or mechanical problems. A simple variable power supply with an ammeter and volt meter is what you need. You can buy one of the simple commercial power supplies that has meters, or you can build your own. It is not too difficult. There is a good design in Don Fiehman's book, *Basic Electricity and Electronics for Model Railroads,* published by Kalmbach Books in 1988.

Figure 2. How to connect panel meters.



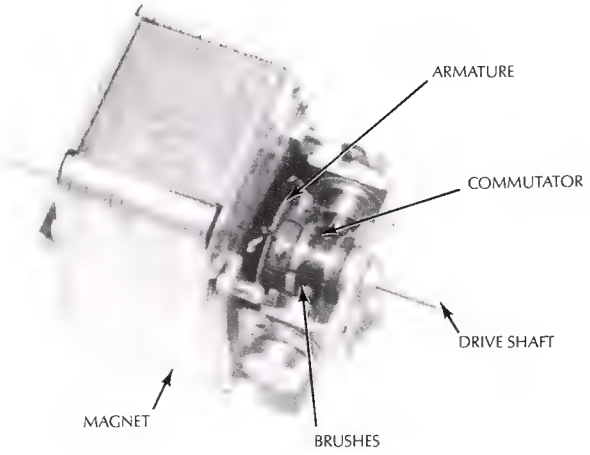


Photo 2. An old open frame motor.

Meters

If you build a power supply you may want to include meters in its panel. Ammeters and voltmeters are not expensive and they are easy to hook up. Some meters read from zero on the left to their maximum (one-sided meters), while others (two-sided meters) read from zero in the center out to a maximum on either side. Fig. 2 shows how to hook up these two types of meters. The best range for a voltmeter is 0 to 15 volts. It should be able to register more than 12 volts so you can tell if your motor is drawing too many volts. Your ammeter should read from zero to one amp if you are only running can or coreless motors, but if you still have some open frame motors you should get a 0 to 3 amp meter. Ammeters used on layouts read higher than this to accomodate multi-engine operation and the inevitable operating short circuits.

As an alternative to panel meters, you can use a good multimeter that has voltage, current, and resistance ranges. Multimeters are also useful for trouble-shooting around the layout.

Speed and Power

No matter how fancy the electronics, we only control the direction and speed of our motors. The direction is changed by reversing the current; the speed is determined primarily by the voltage we send to the motor. However, speed is also controlled by the load on the motor, and the load on the motor is affected by many things: the grade the engine is climbing, the weight of the train it is pulling, the friction of the drive, the gear ratio of the gear box, etc.

The maximum power of a motor is stated as a maximum torque at a specific rpm, and also as the motor's maximum current rating in amperes (amps). This maximum amp rating is a direct measurement of how hot the motor can get before it starts to burn up. Therefore, it is important that you do not exceed the maximum amp rating – and you can watch that you don't by paying attention to your multi-meter or the ammeter on your control panel.

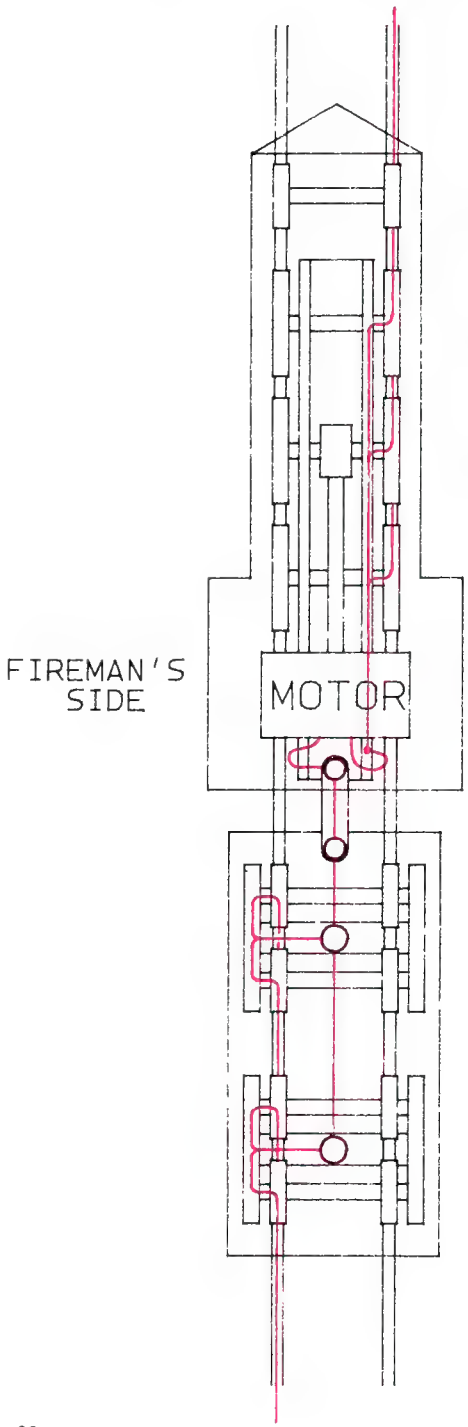
Electrical "Conventions"

Just as the National Model Railroad Association (NMRA) sets wheel standards, the NMRA once decided what our electrical "conventions" would be. The rule for locomotives is that the drive wheels on the fireman's side of the locomotive (left side looking down on it) are insulated, and the tender wheels on the engineer's (right side) side are insulated. Fig. 3 shows the path of electricty through a model locomotive. One pole of the motor is connected to the fireman's side of the engine and the other pole is connected to a wire from the tender. Thus the electricity flows from the power supply, down the rail on the engineer's side, goes through the drivers and the axles on that side, to the engine frame and through it (or a wire) to the motor. After it has done its work in the motor, the electricity flows through a wire to the drawbar between the

engine and the tender (which is insulated from the locomotive) across the drawbar into the drawbar pin and tender frame. From there it flows through the tender trucks to the axle ends in the tender truck side frames on the fireman's side and down into the rail and back to the power supply. Locomotives without tenders will have some form of pickup to send current down into the fireman's side of the engine and its rail. The only really important point here is that all your locomotives should run the same way. If they don't, just unsolder the wires to the motor and reverse them.

There is one place where you might get mixed-up –when you turn your engine over on the workbench, it is easy to get confused and reverse everything. Fig. 4 shows an insulation diagram (drawn from the point of view of the bottom of an engine) which I keep over my work bench. It seems to help me.

Figure 3. Top view of the path of electricity through a model locomotive.



Shorts and "Opens"

There can be only two electrical problems in a brass locomotive engine: a short or an "open." A short happens when an electrical plus (+) meets an electrical minus (-) someplace without a load between them. The ammeter jumps to full scale, and if the engine is running at the time, the voltmeter drops noticeably until the circuit breaker blows.

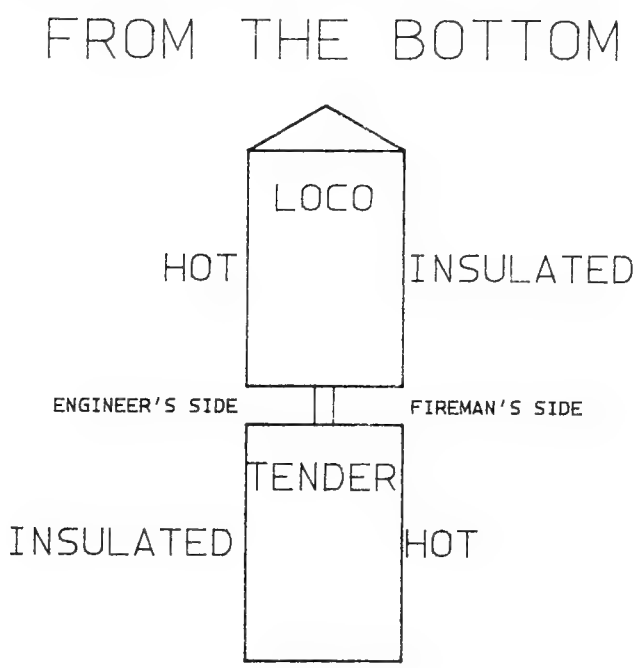
An "open" happens when there is any break in the electrical path through the engine or to and from the power supply. The ammeter remains at zero while the throttle voltage continues to rise. If the ammeter and voltmeter both remain at zero, then the open is in the power supply, probably because the circuit breaker has blown because of a previous short.

Between shorts and opens is the realm of running. When everything is working right, the amount of electricity going through the locomotive to make it work shows on the meters. The ammeter shows a greater amount when the engine is going up hills and less if the engine is running light. The voltmeter shows more volts when the engine is going faster, or if the amperage is going up – it shows fewer volts when the engine is going downhill, or is very free-running.

Although there are only these two things that can be wrong, finding shorts and opens can be quite tricky because they tend to come and go. Fixing a short or open is easy; finding it is the problem. I track down electrical problems by mentally breaking down the electrical path through the locomotive into halves and then test each half. The problem half is then broken into half again and each new half is tested until the problem is located. The first separation I make logically is to first test the engine, then the tender, until I find which one has the problem. Then I start to look for the exact site in whichever one it is.

So much for the basics of electricity and motors. Next time, more on electrical problems. Meanwhile, my thanks to **GAZETTE** author, Gordon North, for his review and helpful comments on this article and the next.

Figure 4. The author posts a diagram like this over his work bench to remind him on which side the wheels should be insulated when he is working on an upside down locomotive.



The Old Mill

by Julian Cavalier
Photos by the author

Like many model railroaders, I have always wanted a water-powered mill on my layout. The HO scale mill described here is based on an old painting that has been in our family for decades. I have no other information about this particular mill – I just thought it would be an interesting subject to model. Although water-powered mills are no longer in common use in North America you can find restored prototype mills that are well worth visiting at a number of museum sites.

Many mills used a wooden flume to bring water to the top of the water wheel to make it turn. On my mill the lower portion of the wheel will be in a swift flowing stream and does not need a flume. In an abandoned state of disrepair, my mill will have a rusty siding heavily overgrown with weeds beside it when I put it on my layout.

The Old Mill is entirely scratch-built and has an inner core of thick stiff cardboard for the walls and floor. Sheet balsa wood made the roof sub-base, and the part of the building below the floor. Scale lumber was used for the steps, platform, trimming, doors, ladder, and parts of the water wheel.

My drawings (Figures 1 to 8) show all of the prototype dimensions except the floor which is rectangular and 20 feet by 11 feet 6 inches. I began with the inner core by drawing the floor, walls, and their window and door openings on a piece of stiff 1/32-inch-thick cardboard. (Sheet bass wood would work just as well as cardboard for the inner core and floor.) Using white glue, I fastened the end walls over the edges of the side walls. (You may want to add some square strips of wood to the inside corners of this inner core to help keep it square.) The inner wall (Fig. 3) was added between the side walls. After the glue had dried, I cut a sub-floor out of a piece of 3/8-inch thick balsa wood, the same size as the floor piece, and cemented the two of them together. This floor assembly was then cemented inside the walls so the cardboard floor piece was flush with the bottom of the doors and the balsa wood sub-floor extended below them.

The location of the axle hole for the water wheel (Fig. 4.) was marked and drilled with a 1/16-inch drill through the wall and well into the balsa wood sub-floor.

The inner core was spray-painted inside and out before the balsa wood "logs" were applied. A flat black paint assured that any spaces between the logs would have a black background. My "logs" were made from strips of balsa wood 1/8-inch square and 1/8 x 3/16-inch. The logs were cut a scale foot longer at each end than the width of the inner core wall they were designed for so they would notch together at their ends. I hewed them to shape with a sharp knife, and then gave them a wood grain with a fine saw blade. They were notched roughly at both ends, and cemented one at a time to the inner core, beginning at the bottom. After they were applied, I distressed them further using a #11 X-acto blade.

The sub-roofs were added next. I used two pieces of 1/16-inch-thick sheet balsa for each roof, and allowed a 1-foot overhand at the ends and sides. It was necessary to trim the upper logs on the side walls to slope so the sub-roof would fit flush at the end walls. I used Campbell HO shingles on my roof, and made some holes in the roof to make it look dilapidated. The roof ridge is scale 2- x 8-inch lumber and the board patches are scale 1 x 4's and 1 x 8's.

The window and door trim boards are scale 1- x 6-inch boards. The boards closing off the windows are scale 1 x 4's and there is a hanging end window shutter made from scale 1 x 6's. The vertical boards on the water wheel wall are scale 1 x 12's with 2- x 8-inch cross braces.

The 1/16-inch hole through the outer wall for the water wheel needed a 10-inch x 10-inch x 30-inch block above and below the hole to space the water wheel out from the wall. The short roof over the end door

THE OLD MILL

BY JULIAN CAVALIER
HO SCALE

Fig. 1. Short end wall

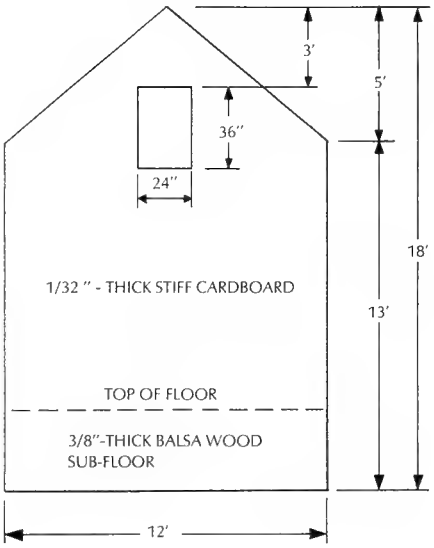


Fig. 2. Tall end wall

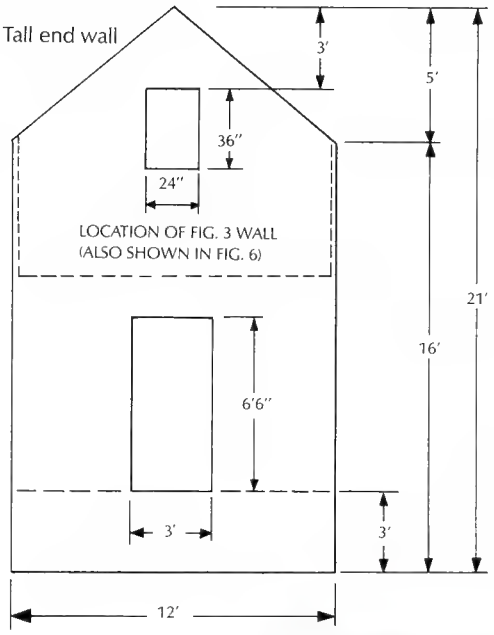
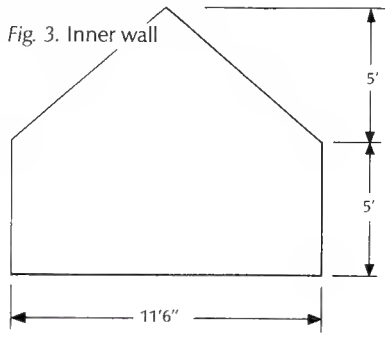
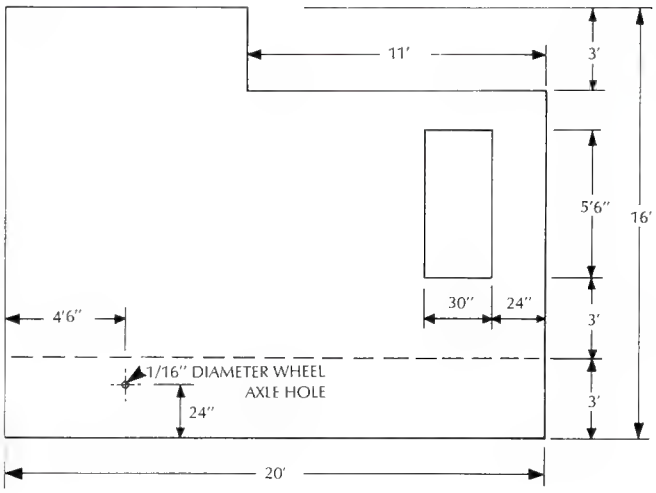


Fig. 3. Inner wall



The assembled mill waiting to be painted. Note the water wheel support cribbing and spacer block.

Fig. 4. Water wheel side wall



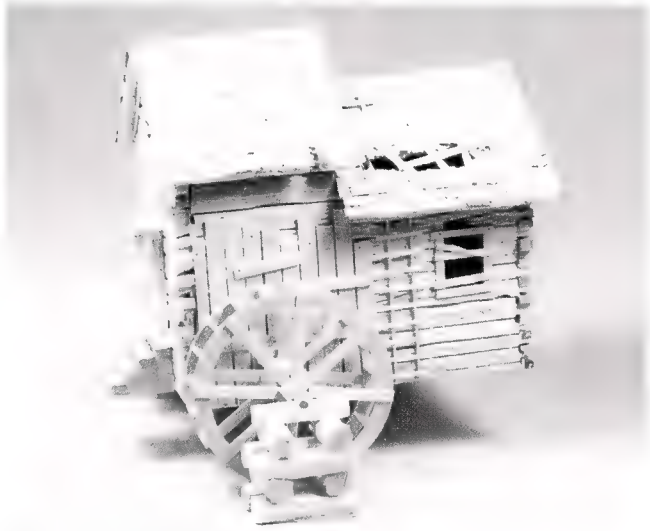
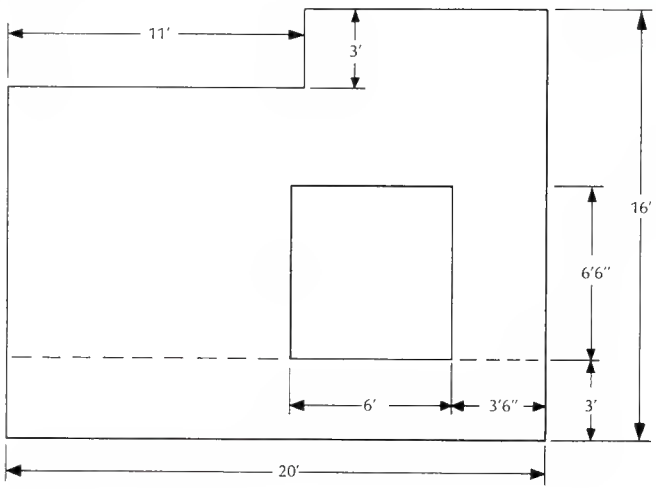
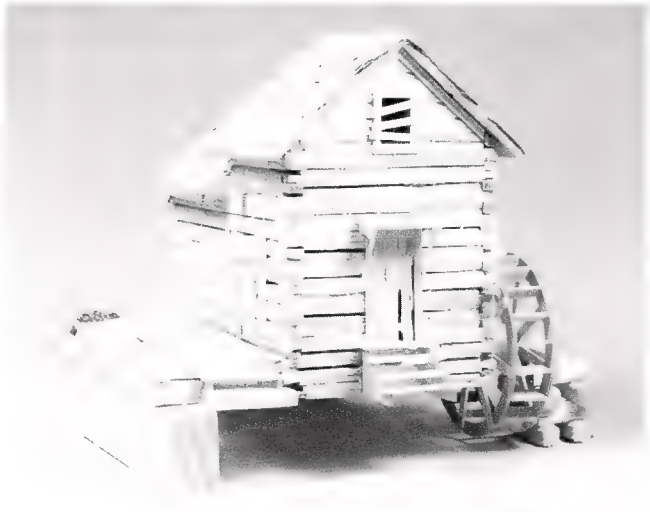


Fig. 5. Double-door side wall.

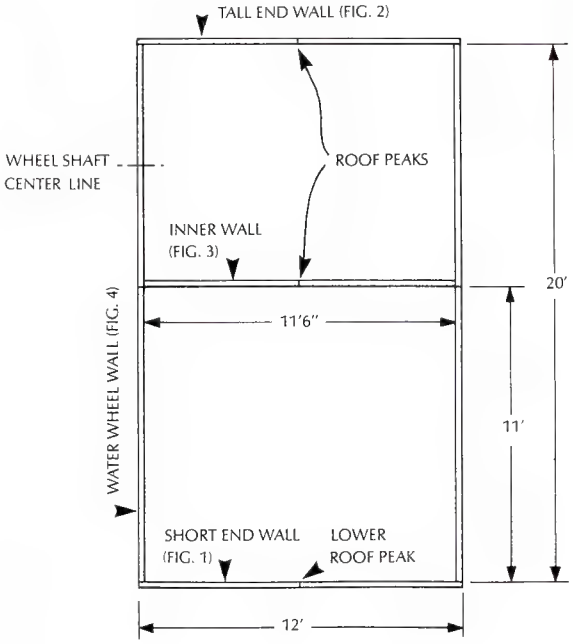




An end view of the mill showing the little porch which adds character to the model.

BY JULIAN CAVALIER
HO SCALE

Fig. 6. Top view of inner core of mill.



Eventually there will be a weed-grown siding serving this platform.

Fig. 7. Side view of water wheel

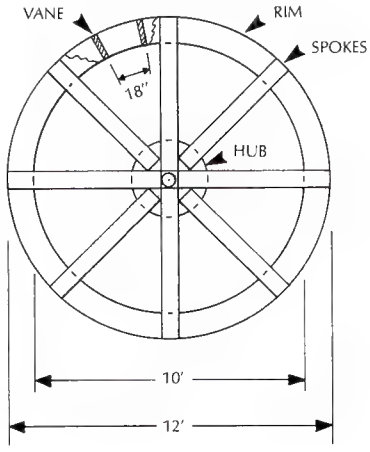
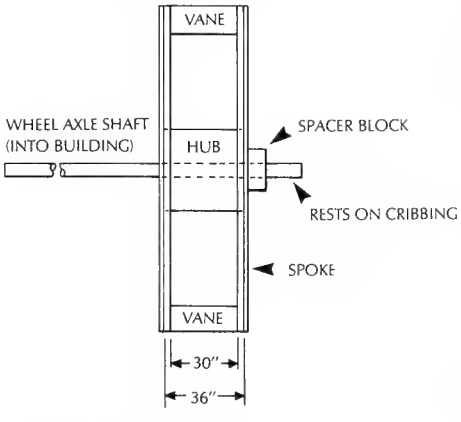


Fig. 8. End view of water wheel



was made from scraps of 1/32-inch-thick siding with 2 x 2 and 2 x 6 braces. The ladders (on the roof and side wall) are Kappler #600 wood ladders that I had on hand. I also added a 10- x 12-inch hoist pole set in the wall above the side double-doors. The platform was made from scrap balsa wood and 2 x 8 and 2-x 12-inch planks. There is a small step at one end made from scrap wood.

The rims for the water wheel were made from 1/32-inch-thick plywood purchased at a hobby shop. I used a drafting compass fitted with a short cutting blade to make circular cuts after marking them out in pencil on the plywood. The wheel hub is a 3/8-inch diameter wood dowel cut to a scale 3-foot length. It has a 1/16-inch hole drilled through its center for the axle. The spokes were made from scale 2 x 8 lumber

The water wheel wall has vertical planks with braces. The axle hole for the water wheel has a block above and below it to help space the water wheel away from the building.

and cemented between the hub and the rims. There are 21, 2 x 12 inch by 30-inch-long vanes on the water wheel. I glued the vanes on first and then added the spokes. I found that double stick Scotch tape helped hold everything in place while the water wheel was being assembled. The axle is a piece of 1/16-inch thick wood dowel. Mine is a scale 10 feet long – long enough to stick through the wall and into the balsa wood sub-floor. Fig. 8 shows the square spacer block I used on the outer end of the axle to space the wheel away from the support cribbing as shown in the photos. This cribbing was made from balsa wood, and built high enough so that the notched-top axle log holds the axle evenly and horizontally.

I painted the water wheel and cribbing with A-West Weather-It before gluing them in place. Various Floquil weathering colors and colored chalks were used to further weather my mill. Once I add my mill to my layout I will cut the bottom of the water wheel so it just rests on a stream. Lots of overgrown weeds and some ivy winding its way over the mill will help it fit into its new setting.

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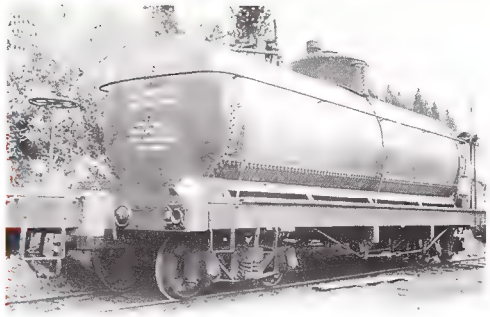

Photo courtesy of California State Railroad Museum, Darrell collection.

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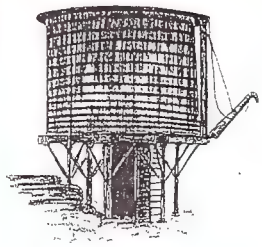

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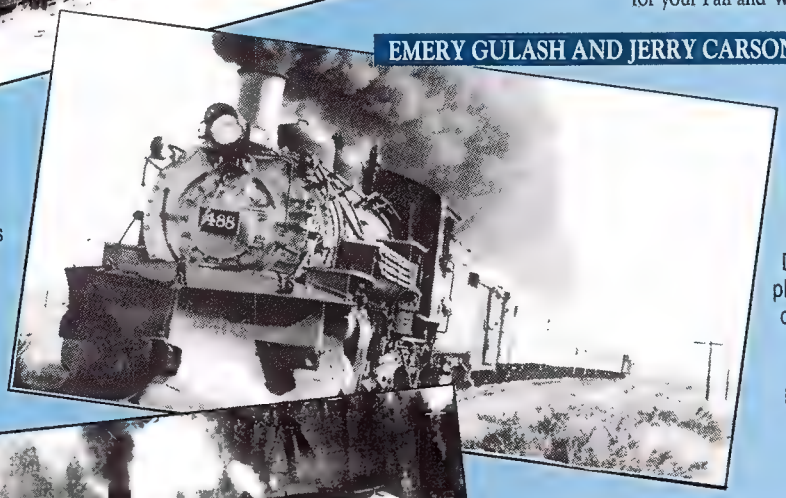

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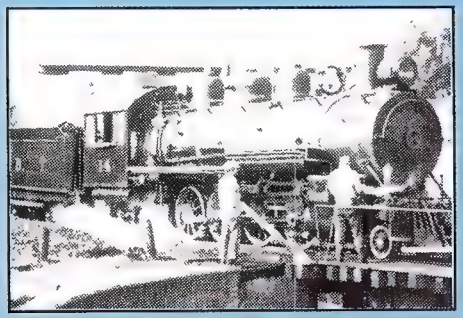

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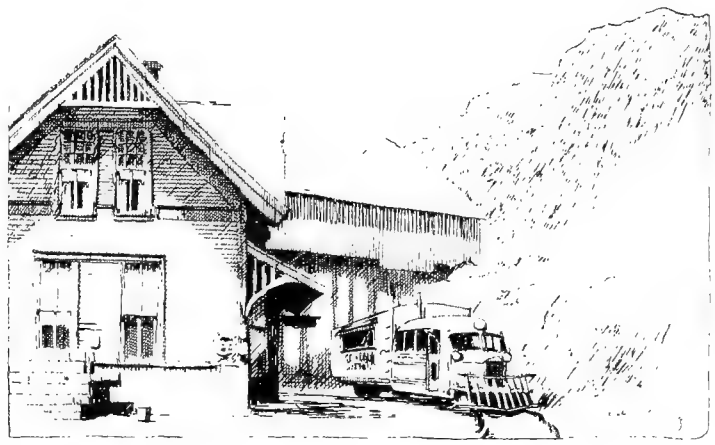

by Charlie Getz

Photos by the author

"DOT... DOT... DASH"

The sound that perhaps evokes the old time train depot best is the clickety-clack of a telegraph sounder. Telegraph and telephone lines were developed along with the railroad, and until recently were an integral part of any railroad operation. In this issue I will focus on telegraph and telephone lines in general, using those accompanying narrow gauge railroads as examples.

Railroads saw the possibilities of telegraphy early in their history. In 1851, only seven years after Samuel Morse invented the telegraph, the New York and Lake Erie Railroad was the first to use a telegraph to dispatch train orders. This pre-dated the first North American narrow gauge by about 25 years. With the development of Centralized Train Control (CTC), block signalling, and interlocking, it was not uncommon for a double-track mainline on a Class 1 railroad to have as many as 10 or 20 dedicated lines for telegraph and telephone service.

The glory days of railroad telegraphy were roughly from 1900 to 1930. Today modern railroads use microwave telephone relays, telephones, and radio for communication. Still, old ways die hard, and narrow gauge lines such as the Rio Grande Southern used telegraph orders up to the end of operations in the early 1950s.

Telegraph and telephone lines and poles have not changed significantly since the early days. A review of old photos will show these poles in almost all of the pictures. The wires themselves were generally ⅛-inch thick, but power cables, often carried on the lowest cross-arms of a pole, could be thicker. Poles were generally made from straight tree trunks and were usually tapered from about 14 inches at the bottom to about 9 inches at the top, where they were cut on a slant to prevent rain water from collecting and causing rot. (The slanted top may also have discouraged birds.) The poles were uniformly 30 feet long, and their cross arms were usually 3- x 4-inch boards about 6 to 10 feet long (the length generally increased in increments of two feet). These cross arms were spaced vertically two feet apart, and the number varied with the number of lines carried on the poles. Old pictures show poles with a myriad of wires and as many as five or six cross arms (sometimes two poles were needed to hold up each set of cross arms). Most narrow gauge lines had single poles with a single insulator mounted on a wooden wedge on each side of each pole carrying one or two telegraph wires. But some had four or five wires carried on a single or double cross arm.

Insulators were usually made of glass, were 4 inches in diameter, and about 4 to 5 inches high. They were usually spaced on the cross arms at intervals of 6 to 12 inches. Usually clear, green, or brown, the color of the insulators reflected the ownership of the telegraph or telephone line, making it easier for linemen to identify the lines of their company. I'm sure there were other colors of insulators, and perhaps some reader can tell us which color went with which company. Nowadays poles are marked with metal plates or color stripes that denote which lines are which.

Poles were generally located 18 to 20 feet from the edge of a railroad, and their 30-foot lengths were usually set 8 feet into the ground so that their height was approximately 22 feet. The wires could be no lower than 25 feet where they crossed railroads, and had to be at least 18 feet high over highways. The spacing of the poles varied from 40 to the mile (132 feet apart) to 26 poles per mile (203 feet). Several of the articles I read in preparing this column recommended that model railroad poles be a scale 80 feet apart.

Even though railroad telegraph/telephone poles were mostly located along right-of-ways, they did not always continue to follow that right-of-way. Unlike railroads which could use tunnels, cuts, and fills, poles had to follow the contours of the landscape. Thus, a line of poles along a fill might dip down into a valley, and when the railroad went through a tunnel, the telegraph line might might go up over the mountain. Wire usually crossed railroad bridges on their own poles, but they could be cabled along the bridge members or attached to extra-long ties. Photos show all three alternatives.

Guy wires were used at intervals to hold poles in position and maintain tension on the lines. A guy wire extended at an approximately 45 degree angle from the pole to an anchor in the ground. Every third to fifth pole was supposed to have a static line running down from a small plate of metal at the tip of the pole so that lightning could be conducted to the ground. I have seen very few of these static lines on narrow gauge lines; apparently they were common in the flatlands where lightning struck poles more frequently.

Crossing wires, as shown in Fig. 1 was known as "transposition." This was done to prevent unwanted interference or "cross-chatter" due to the induction of the lines paralleling each other. A three-foot-long metal rod (top of the middle pole in Fig.1) was used to provide clearance for one of the lines to cross over another. Transposition usually occurred every 1½ miles.

When I think of telegraphy, I think of Western Union. Generally Western Union maintained its own lines and used a fleet of standard and narrow gauge cars for this purpose. The narrow gauge Western Union cars that operated throughout Colorado may have been typical of cars used on other narrow gauge lines. Western Union cars generally travelled in blocks, and there was a seven-car Western Union train that travelled on the Colorado narrow gauges until 1920. It was painted a flat green with yellow lettering. Many narrow gauge railroads maintained their own telegraph lines and would not use such a special train.

However, the idea of modeling such a train is intriguing, and I hope a reader will come up with more information.

The Colorado Railroad Museum has two Western Union cars on its roster. Denver & Rio Grande Western coach #250 started as a Pullman-built tourist sleeper in 1889. It went to the Colorado and Northwestern as coach #6 in 1898, to the Denver, Boulder and Western as coach #20 in 1909. It became Western Union outfit car #298 in 1919. In 1933 it became maintenance-of-way car #0250 on the D&RGW. While working for the Western Union, it probably provided sleeping and travel accomodations for the crews.

Western Union outfit car #302 is also preserved by the museum. It started life as a Barney and Smith car in 1897, and was used by the Colorado and Northwestern/ Denver, Boulder and Western until 1919 when it was transfered to Western Union and used by them until 1933. It was finally set out at Monarch, Colorado, in 1935 where it remained until abandonment, when it was acquired by the museum. There is a photo of this car in my January/ February 1988 column.

There have been many parts produced for modeling telegraph lines. The number of excellent articles (from which I have shamelessly borrowed) will provide you with enough information to build your own lines. There was an article on line poles in the October 1981 MODEL RAILROADER, and one on telephone and utility poles in the January 1968 MR. MR also had articles of interest in the July 1977, September 1962, August 1953, and September 1948 issues. The Winter, 1981 issue of MODEL RAILROADING, and the December 1953 issue of RAILROAD MODEL CRAFTSMAN had articles. The best photo of model telephone line that I have seen appeared on page 25 of the June 1963 RMC.

Poles in Ridgway, Colorado with a power line and three communication wires.

Power lines on the right and telephone lines on the left in Central City, Colorado.

This pole is located at the Colorado Railroad Museum in Golden, Colorado.

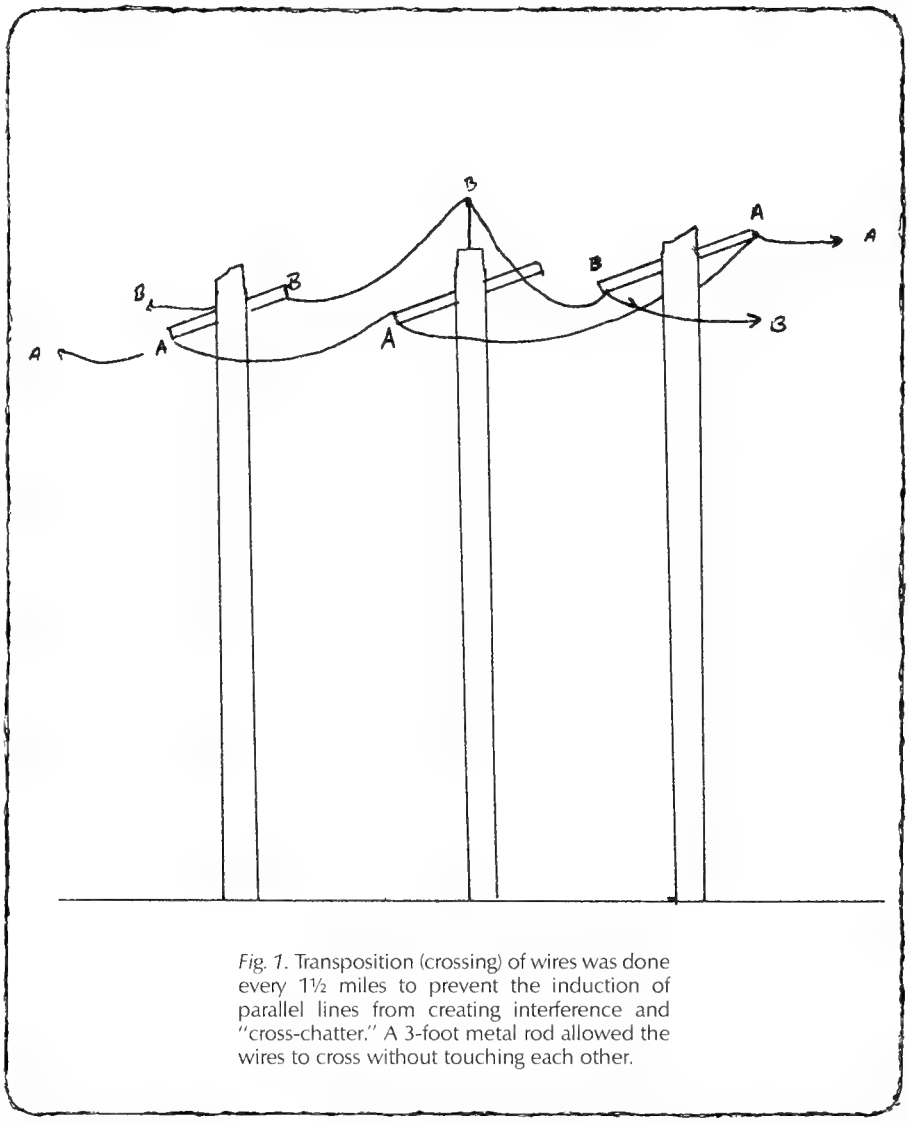

Fig. 1. Transposition (crossing) of wires was done every 1½ miles to prevent the induction of parallel lines from creating interference and "cross-chatter." A 3-foot metal rod allowed the wires to cross without touching each other.

Telephone and signal boxes were also serviced by lines. Plans for some of these facilities can be found in the June 1984 RMC and May 1957 MR.

Plans for Western Union standard gauge cars can be found in the February 1957 MR. HO kits for these cars were one produced by both Ambroid and Cliff Line.

In O scale, Life Like, Kiel Lines, and Clover House produce poles and insulators. The military modeling firm of Bandai offers telephone and telegraph poles with attached arms and insulators. In HO, K&L, N&G Railway, Signal Company, Magnuson, Atlas, Heljan, Vollmer, Preiser, and Rio Grande Models have all produced poles and other parts. In N scale, Atlas, Green Max, and Heljan have produced poles. Smaller poles from one scale can be used as forced perspective in a larger scale. Clover House has a variety of pole dowels and glass bead insulators that will work in N, HO, S and O scales.

Articles vary in recommending whether the modeler should or should not actually string "wires." Many model railroaders erect the poles but don't string wires – if they do, they usually use black or clear nylon fishing line. The July 1979 RMC had an article on a wire-stringing device using "invisible thread." An article on fine-scaling Atlas poles can be found in the December 1986 RMC.

Whether you model old time railroads or modern CTC mainlines, telegraph and telephone poles have ther place. A slightly out-of-kilter pole will evoke the mood of most narrow gauge lines. A total absence of poles would be unnatural. So, no matter what railroad you model, give consideration to modeling the telegraph and telephone poles that were once so essential to railroad operation.

And as always, write . . . if the mood strikes.

Charlie

For those of you who want a challenge, try modeling this neat little power station located in Grass Valley, California.

AN LGB RAIL AND TIE CAR

by Jim Pallow
Photos by the author

This rail and tie car evolved from an idea I got from a member of the Denver Garden Railway Club who suggested that I chop an LGB low-side gondola into a flatcar and mount a Lionel crane on it. Well, one thing lead to another, and it wasn't long before I discovered that my crane crew needed a place to sleep. This prompted me to chop an LGB boxcar into a bunk car. These two cars gave me a good start on a work train, and it was clear my crew were going to need rails and ties to work with. After studying another one of my LGB low-side gondolas, I decided that I could easily turn it into an excellent rail and tie car for my crew.

I patterned my rail and tie car after similar cars used on the Denver & Rio Grande Western Railroad. (At least one of these cars still exists on the Georgetown Loop Railroad near Silver Plume, Colorado.) An LGB #4061 gondola was perfect as a basis for the D&RGW model – these gondolas are nothing but flatcars with removable gondola sections.

The conversion was a simple project that took me only three evenings to complete. First, I separated the gondola part of the car from the flatcar part. Then I removed various lugs and grab irons from the flatcar deck. Next I filed down any pieces of lug that were left, and filled the grab iron holes with a plastic putty to leave a smooth deck. Two 0.060-inch-thick styrene "boards" were glued across the deck at either end to keep the rails hauled on this car from sliding off. (My "boards" were detailed with Grandt Line nut/bolt/washer castings). A Model Die Casting brake wheel and staff completed the flatcar part of the conversion.

I used the gondola section of the #4061 LGB car to form the gondola part of my rail and tie car. It was raised above the flatcar deck just enough so that rails could be slid underneath it. The gondola section needed a new floor, so one was made out of a sheet of 0.060-inch-thick styrene with scale 12-inch scribes running lengthwise. The drawing shows how this floor was ACC'd onto the bottom of the gondola section. A new frame was made with square styrene strips the same size as the LGB side stakes. Pieces of styrene ⅝-inch-long were glued to the inside of the LGB stakes, and ⅞-inch-long pieces were glued to the ⅝-inch-long pieces as shown in the drawing. Floor brace beams were glued between the ⅝-inch-long stakes. On the prototype, the horizontal beams under the floor were further supported with truss rods. I used brass wire for these truss rods and added a small block of styrene for the queenposts

The prototype Denver & Rio Grande Western rail and tie car on the Georgetown Loop Railroad at Silver Plume, Colorado.

The author's completed LGB rail and tie car with its gondola section removed and sitting upside down on the right-of-way.

Framing the gondola part of an LGB gauge rail and tie car.

The author's completed rail and tie car ready for service.

on each beam as shown. The stakes and beams were then detailed with Grandt Line nut/bolt/washer castings. Each end of the truss rods also has a nut/bolt/washer casting.

If you look carefully at the prototype photo you can see a flat iron brace running from the first stake down to the deck at each corner. I left these braces off because I wanted to be able to remove the gondola section of the car.

I painted my rail and tie car with Floquil Gray Primer. The letters are CDS dry transfers. The completed car was coated with Testors' Dullcoat. The final details were lengths of rail and ties. This model turned out to be a quite convincing rail and tie car, and took a minimal amount of work to build.

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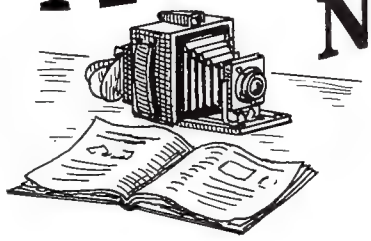


by Al Armitage
Photo by the author

A 3-Foot Gauge Rail Truck for Maintenance-of-Way

Many long years ago, I dreamed up (and built) the little On3 rail truck shown in the photo. I made it almost entirely from styrene, including the canvas top which was made of 0.010-inch thick material. Unfortunately, it never ran successfully – it either spun its wheels, or "ran" like the proverbial bat. For one thing, it was too light to afford enough traction with its large rear drivers, and it was powered with an open-frame Pittman DC-70 motor, that – as some of you old hands will remember – turned over something like 12,000 rpm. This, combined with a single worm and gear ratio of 30:1, was not conducive to slow speed. Ah me! If I had only had micro motors with gearheads and Cliff Grandt's wonderful cross-box gear sets back then.

My purpose was to build a homemade rail truck designed by some enterprising master mechanic to transport his track gang, help in routine track maintenance, and fight fires along the right-of-way. My model followed no particular prototype, but for this article I will describe the design of an actual truck. A Garford was well-suited to the purposes above, and was about the right vintage and size. Also, I just happened to have scale drawings for one. Any similar truck would work just as well for the prototype for your model maintenance-of-way rail truck.

Note the large tank behind the cab that would carry the water supply for fire-fighting. One can imagine a small gasoline-driven centrifugal pump generating the pressure needed to produce a stream of water. But a little two-cylinder gas engine with its own fuel tank would probably do the trick just as well. It would be interesting to model the pump detail, but you can take the easy way out, as I did on the drawing, and cover the pumping unit with a tarpaulin – just as it would have been on the prototype.

I designed the hose reel to hang under the rear end of the truck, but it could just as well be mounted on the water tank, or on the floor near the tank. It's your model, so arrange things to suit your ideas and tastes.

The removable side boards are an optional detail, but I felt they were necessary to contain loose items. The load for this truck will depend on the kind of railroad you are modeling. Ties, lumber, rail joiners, frogs, switch stands, old couplers, chain, etc., would be normal for any short line pike.

Because the truck I built was narrow gauge, I had to build a special chassis. Wood would be a logical material for such a home-built prototype chassis and also for that of a model. Note in the top view of the rear wheel how the main frame members are cut away to clear the drivers. These 36-inch drivers could be spoked or solid, and along with journal boxes are commercially available.

The pedestals could be made from styrene, but they would probably be better done in brass with brass springs. The sand boxes could be shaped from solid blocks of wood, metal or styrene with wire pipes. Note on the rear view how their filler hatches go up through the flooring, and have covers that are flush with the floor boards. These sand boxes are like the ones used on Shays and are designed to be operated from a lever in the cab with a rod running back to levers on each box.
The tool boxes and fuel tanks could also be solid, although these might be good places to conceal extra weight for improving traction.

Commercial stake pockets, nut/bolt/washers castings, and brake shoes are available. The pilot truck can be fabricated from styrene, or you might find an old locomotive lead truck in your scrapbox that would serve. On my drawing, I added fenders over the pilot truck to hold down spray in wet weather.

The radiator, hood, and cab parts lend themselves to styrene construction. One of the unusual features of the Garford truck was the headlights mounted inside the fire wall (see front view). These lights were kerosene-fueled, and had Fresnel lenses. Most trucks of the period did not run much at night, and I imagine that this rail truck would not have operated in the dark hours.

In my drawing I hung a small fixed bell on the cab so that a rope could extend through a hole fastened within reach of the driver. I left the normal steering wheel off my drawing, and replaced it with a brake wheel that would manually operate the clasp brakes on the rear drivers. These brakes would be actuated by a system of rods and levers similar to those used to operate the brakes on a freight truck.

There is no battery shown in my drawing because the prototype truck used a magneto. There was no gas pedal because the throttle was hand-controlled, along with a spark control on the truck steering wheel column. I attached these controls to the brake wheel column which, in theory, would be a tube with a brake staff rotating inside it. With no battery, this truck had to be started with a hand-crank. The hook on the pilot beam is for towing in case the truck is disabled.

The prototype cab roof was made from what used to be called "leatherette," a

heavy cotton material, similar to canvas, that had a rubber-like, textured coating bonded to it that looked somewhat like leather. The stuff was very similar to old-fashioned oil cloth and was commonly used for auto tops and seat cushions.

The straps holding the top in position were made from heavy canvas webbing with toggle adjustments for the tension. One of the detail sketches shows how the straps were rove (drawn) through the buckle-like toggles. I've not shown a windshield since there wasn't one on most early trucks. (Driving one must not have been much fun in cold or inclement weather.)

You could use a micro motor with a Grandt Line gear set to power your rail truck. This should have more than enough power for good slow speed operation. You should be able to mount the drive under the floor in a ¼-inch scale model, but you will probably have to cut out the floor on an HO model and conceal the drive under a tool box, or load.

I'll leave the color scheme to you. My model was painted medium blue because I happened to like the color. It might be better if your vehicle matched the color of the rest of the maintenance-of-way equipment on your pike.

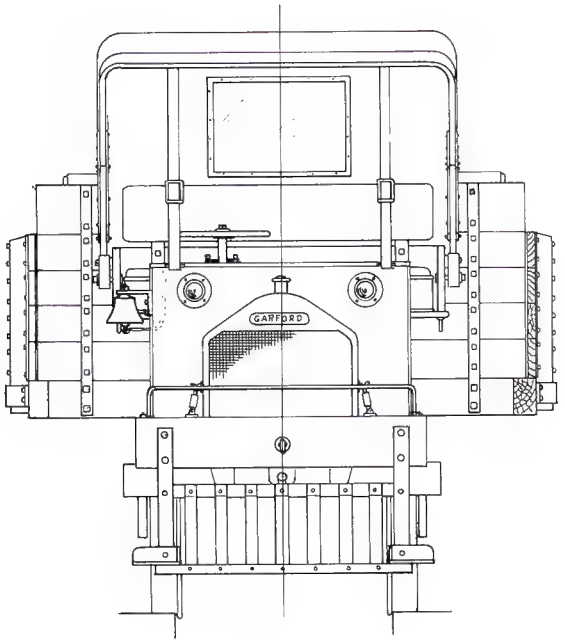
Since this is primarily a free-lance project, you are going to have a lot of freedom in deciding what your model will look like. Let your imagination be your guide, and you should end up with an interesting and truly unique piece of motive power.

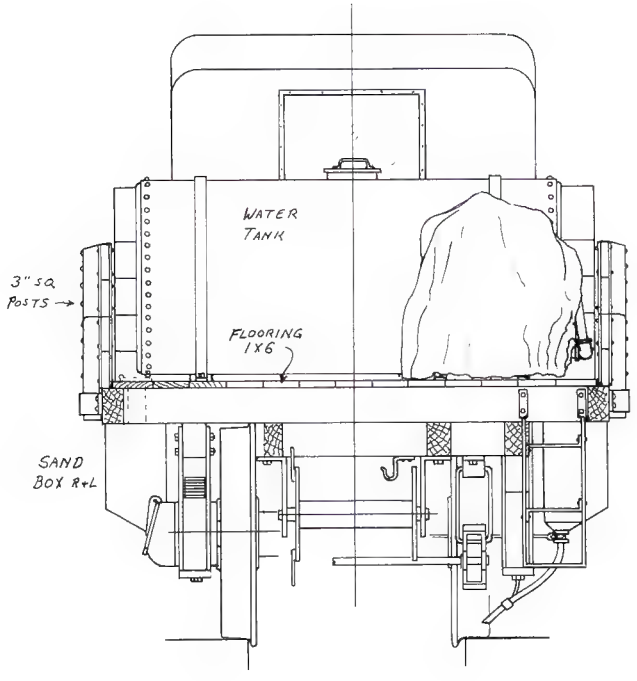
AL —o

A 3-FOOT GAUGE RAIL TRUCK FOR MAINTENANCE-OF-WAY AND FIRE-FIGHTING

BY AL ARMITAGE

SCALE: ⅜-INCH = 1 FOOT





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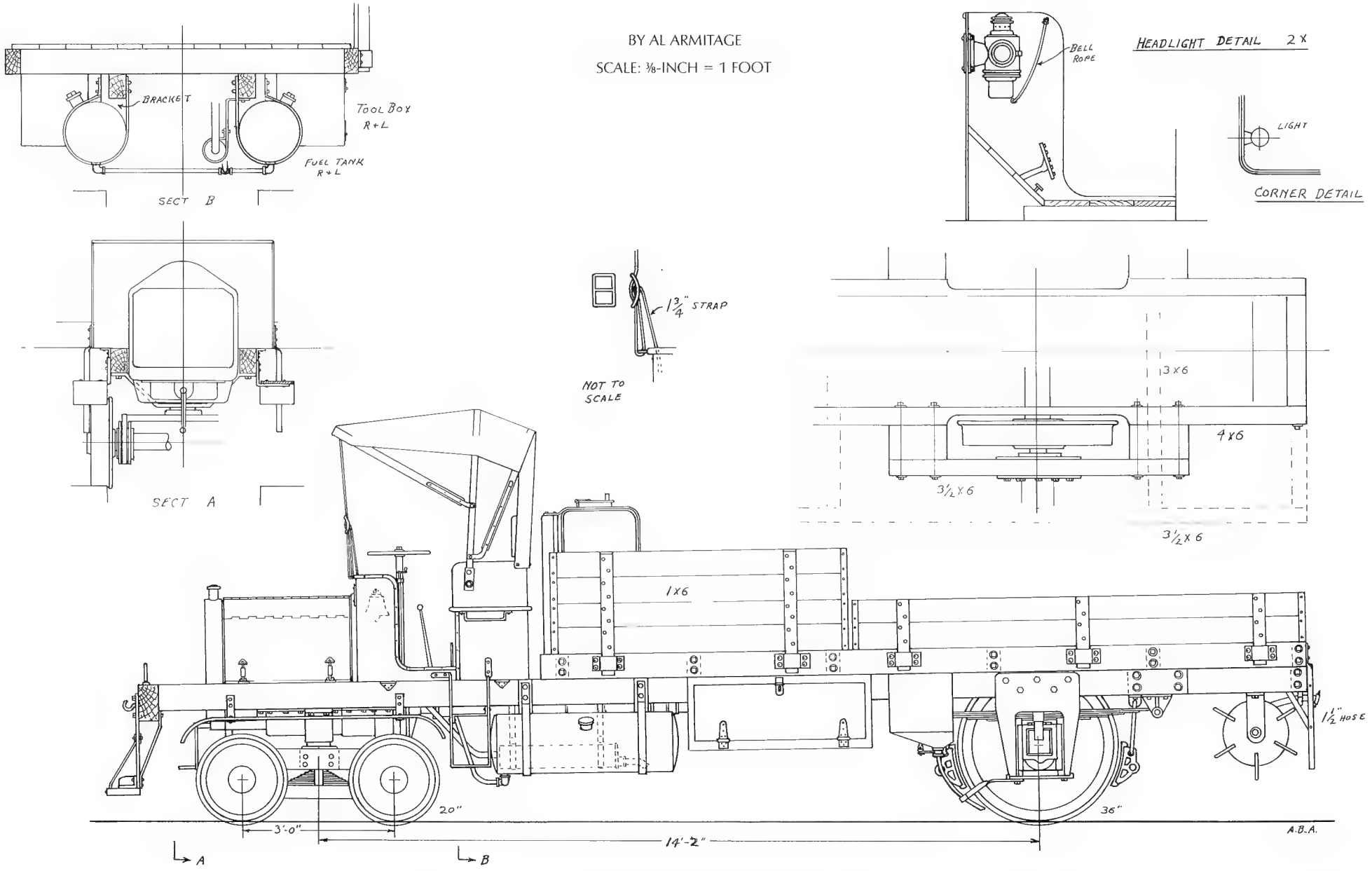
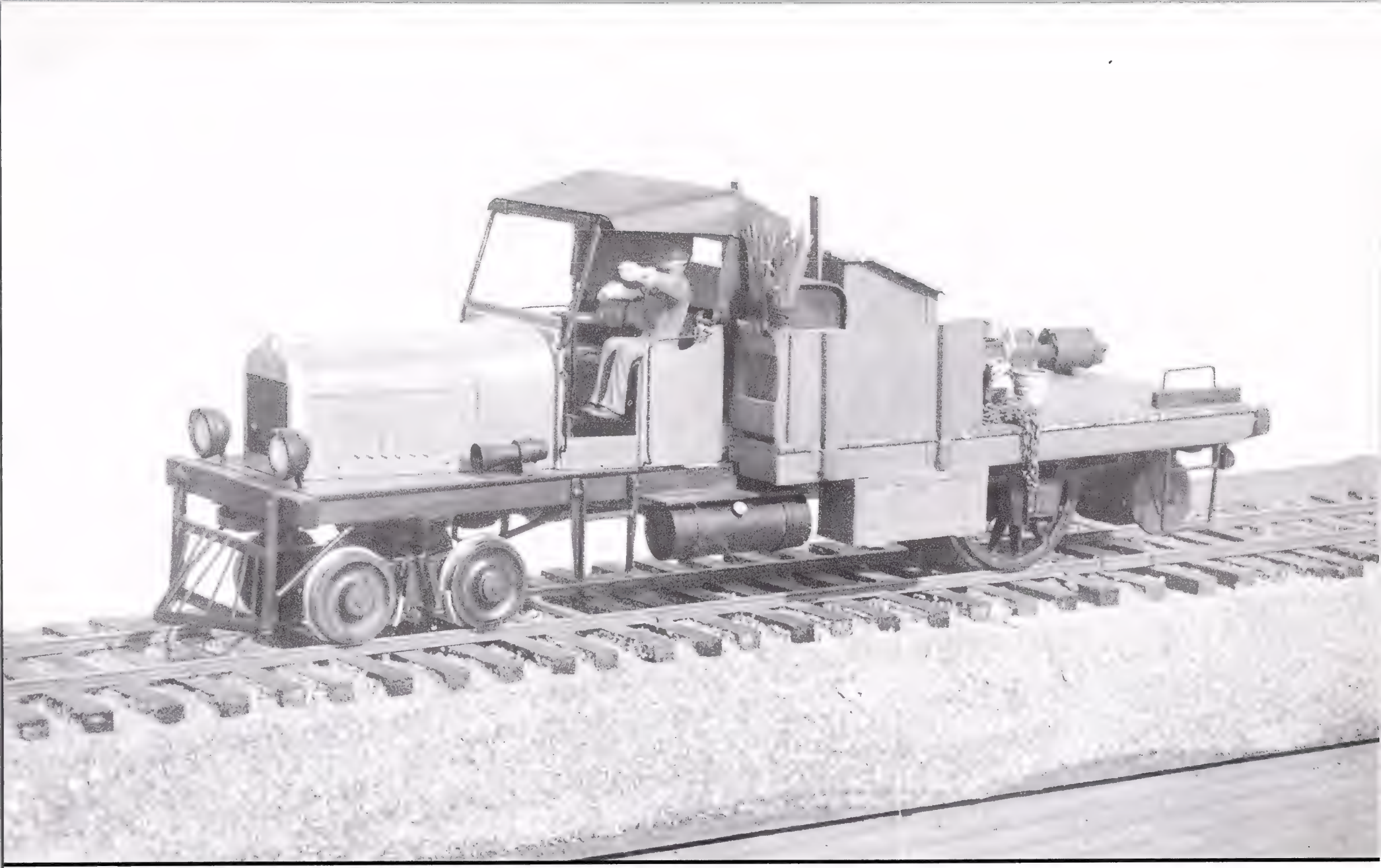
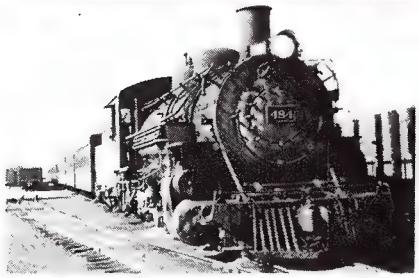




A 3-FOOT GAUGE RAIL TRUCK FOR MAINTENANCE-OF-WAY AND FIRE-FIGHTING

The author's original On3 rail truck, built many years ago.

TAKE A TRIP ON THE NARROW GAUGE



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UINTAH RAILWAY LOCOMOTIVE #20

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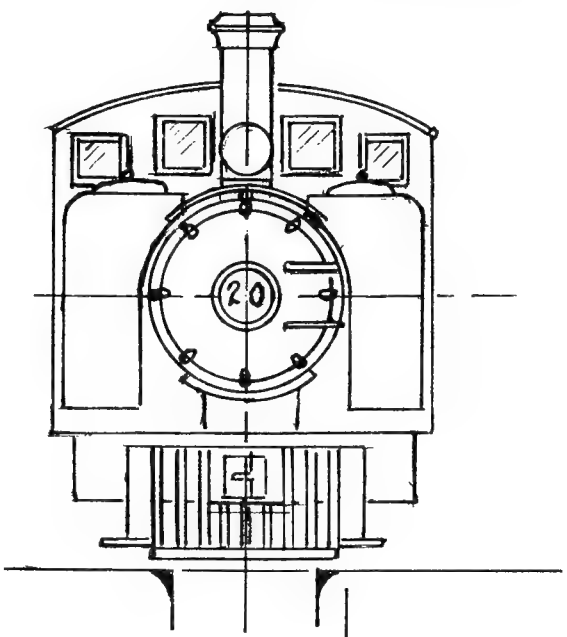
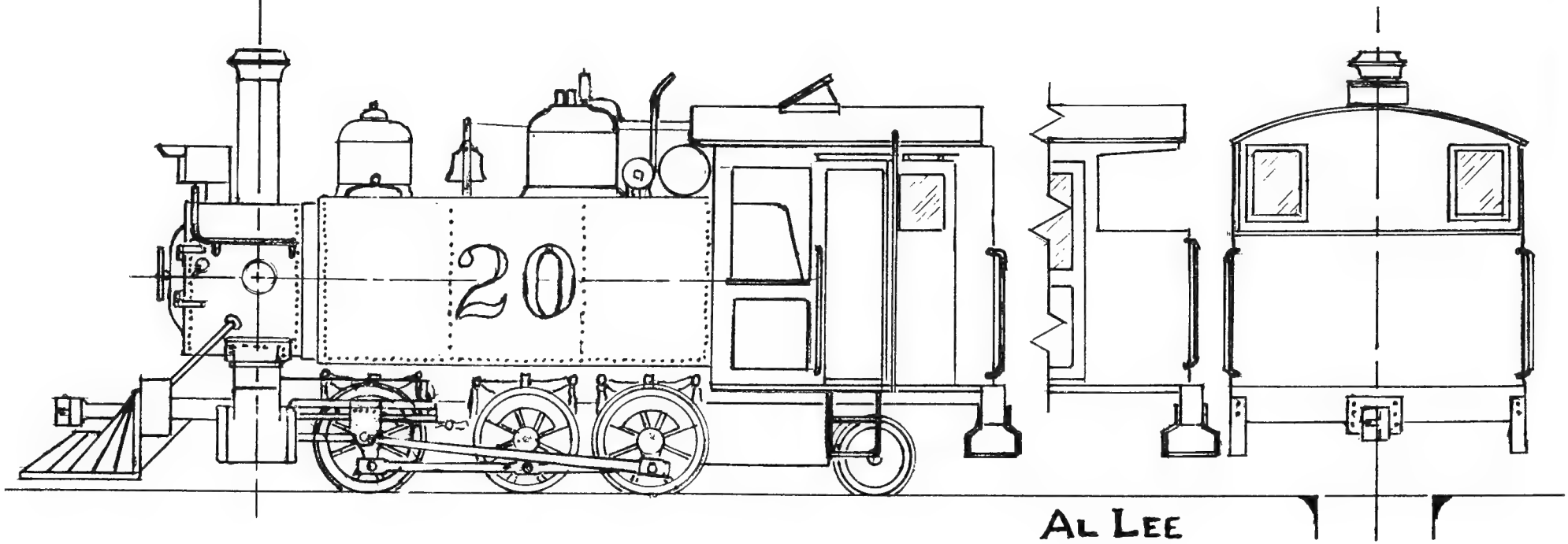
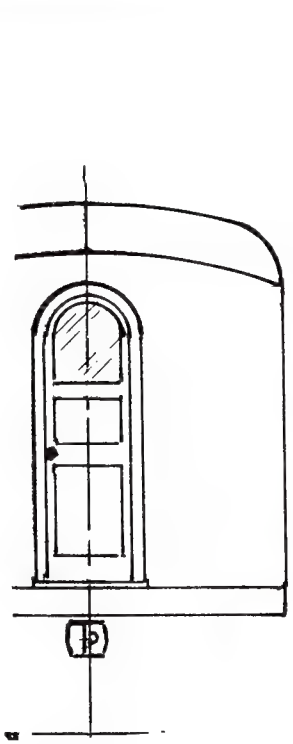


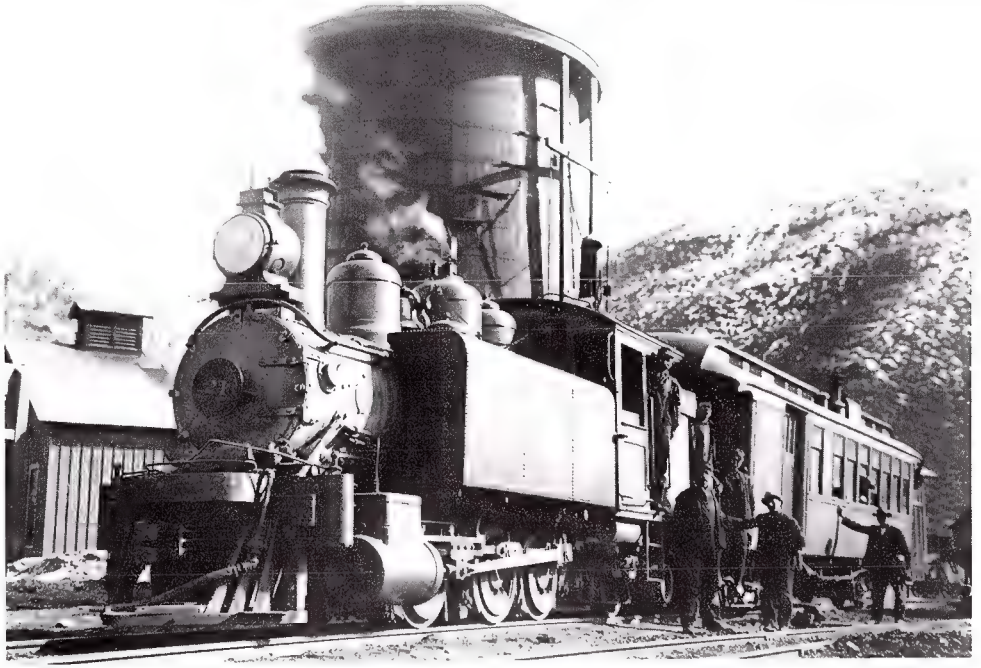
DRAWN BY ALBIN LEE
September 22, 1984 (Revised March 13, 1986)

UINTAH #20, BALDWIN #25896, BUILT JUNE 1905
UINTAH #21, BALDWIN #25953, BUILT JULY 1905
13"x 18" CYLINDERS
34" DRIVERS

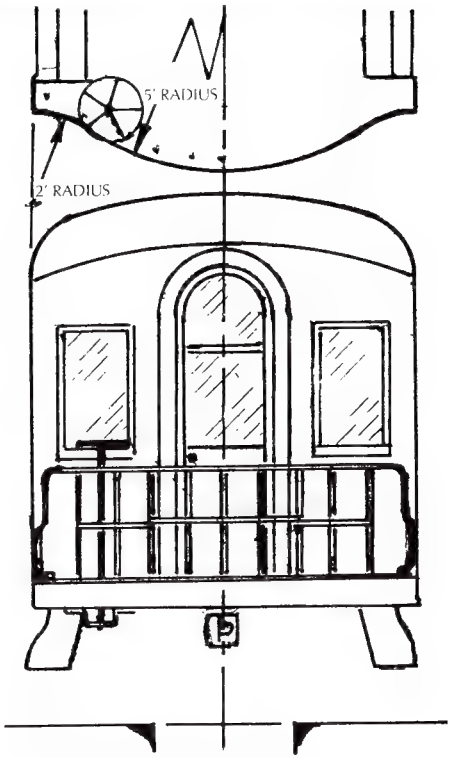
SCALE ¼ INCH = 1 FOOT

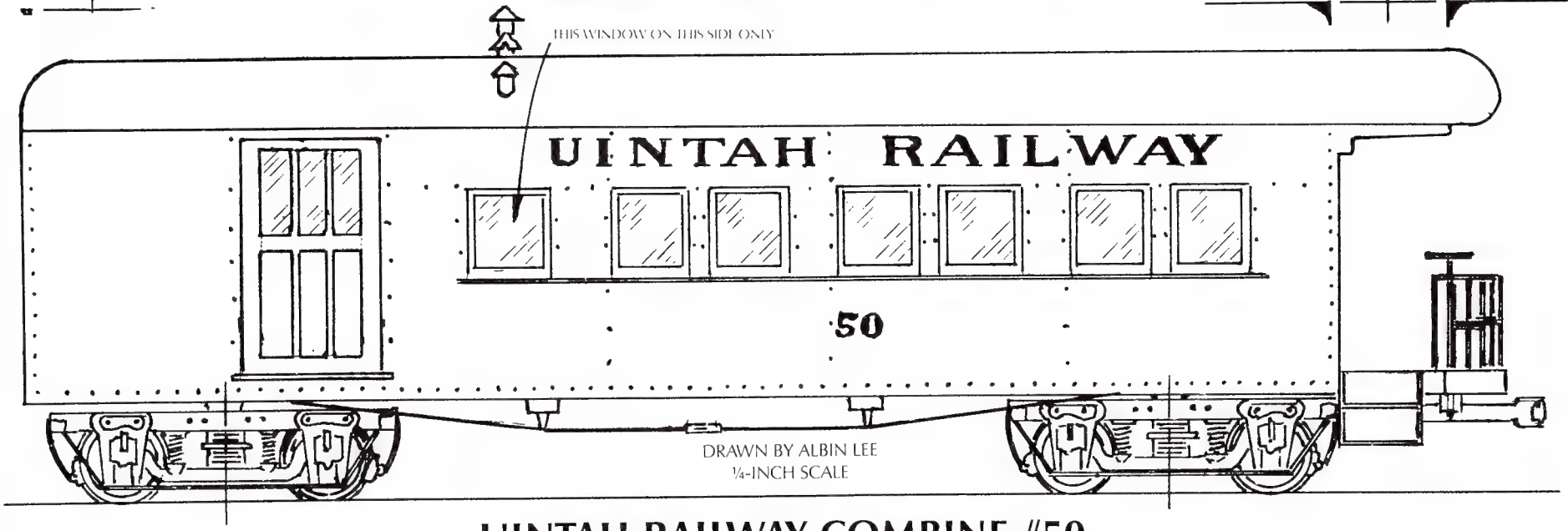




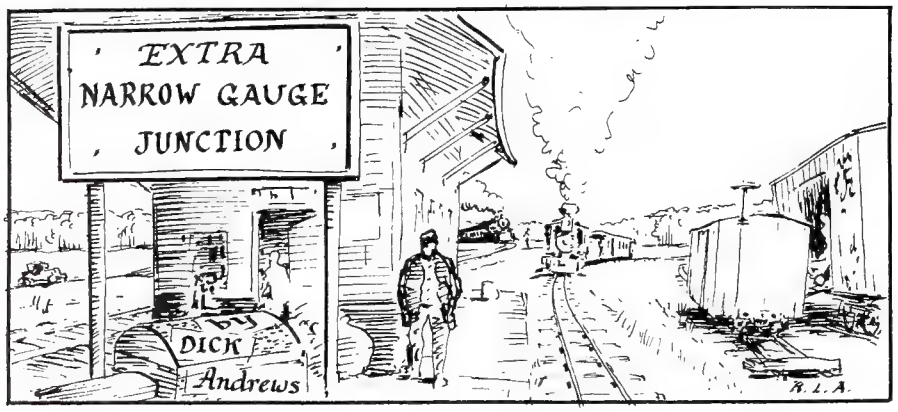


Uintah Railway #21. *Photo, collection of Ed Bond.*





UINTAH RAILWAY COMBINE #50



by Dick Andrews
Photos by the author

In my column in the January/February 1989 issue, I included a cut from the 13th edition of the H.K. Porter Company catalog showing a Ten-Wheeler. The caption suggested that she had been built for a logging line in Florida. I have reprinted the cut of this 4-6-0 here. Notice that her cab bears the number "3," but that no road name is shown on her tender, which is just lettered, "PORTER".

This little locomotive had 13-x 18-inch cylinders, 38-inch diameter drivers, a 9-foot driver wheelbase, an over-all wheelbase of 17 feet 6 inches. She could curve around a 100-foot radius curve (even though a 150-foot radius was "advised"), and she "tripped the light fantastic" on 35-pound rail.

That is all the catalog tells us. But **GAZETTE** reader Don Hensley of Bartow, Florida, puts her in place in Table 1 and sent in the following:

> I saw the photo of the 4-6-0 that was built for a logging road in Florida, and got to checking. She went to one of the largest sawmills in the state; the Cummer Lumber Co. of Jacksonsville. Cummer bought two of these 4-6-0's in 1912. "The Cummer Mill produced 130,000 feet per day and they operated 30 miles of railroad *laid with 40 pound rail.* They had five locomotives and 20 cars along with four skidders and loaders in 1907. By 1917 the mill in Jacksonville closed down and operations moved to Sumner, Levy County, Florida, where they operated 20 miles of track into the 1930's.

In 1912, when #3 came from Porter with her eight-ton axle loading, the Boston & Albany Railroad took delivery from ALCO of a 121-ton 2-8-0 with an axle, loading of 27 tons. This was the era of the block-long behemoths on the nation's "high iron" where axle loadings reached well over 30 tons.

I have become used to thinking of Civil War era 4-4-0's on standard gauge with 10-ton axle weights as "early era" and "light weight." The whole engine might only weigh 30 tons. But in 1912 and later we find that Porter was building light steam locomotives to run on rail that might have been considered light by the raiders in the Great Locomotive Chase of fifty years before. The 1912 engines I am describing would run on code 70 rail in O scale.

The Cummer Rhode Island Forneys (numbers 16, 19, and 25) are interesting. I would guess that these were ex-New York Elevated Railroad locomotives, hundreds of which hit the secondhand market when the system was electrified around 1901. One example, New York Elevated RR #45, was built by Rhode Island in 1890, had 11-x 16-inch cylinders, 42-inch drivers, a 5-foot driver wheelbase, a 16-foot-long total wheelbase, a 38-inch diameter boiler, a 7-ton axle load, and a total weight of 20 tons. That engine would be small by Maine 2-foot standards - and she was standard gauge!

One may well ask, "Why so light?" The simple answer is that rail sells by weight - there is nothing to be gained by buying rail twice as heavy as is needed for the job at hand, and doubling the cost of your railroad. If a 30-ton 4-6-0 will pull the desired tonnage for each train, then one can lay track accordingly. The short line on which small engines can make several daily round trips can divide the total daily tonnage by the number of trips. If the line is too long or the grades so steep that one locomotive can hardly make one trip per day, the management has to look for heavier locomotives, and heavier rail.

The Vulcan 1913 catalog gives us some exact numbers for comparison. A median price for a mile of 16-pound rail track was $2044.00, which includes slightly more than 25 tons of rail at $35.00 per ton, spikes, splice bars, and $500.00 for grading. A mile of 40-pound rail track was $3971.30 for 63 tons of rail at $35.00 a ton, plus other items, including $700.00 for grading. Very clearly the cost per mile has much to do with the weight of the rail used.

This was, of course, in the days before state and federal governments started to build and maintain all-weather roads for Mr. Ford's products. My mother once described a trip by horse and gig, 12 miles from the family farm to the nearest shopping center in the days before Fords. The horses could handle her parents, two brothers, and her on the flats, but the kids had to get out and walk on the hills. It was a long day's trip. Now one can jump in the car, run an errand in town, and be back within the hour.

In those days rain or a cold wind made the gig ride miserable, and a muddy dirt road was difficult. The railroad, with light equipment, was a far better way of travelling. The track was like a ladder, and a ladder is much the best device for a rescue across thin ice because it spreads the load. Thus a line of track, if a village could afford it, was an all-weather communications device that could get you over the ground at an average speed of 15 mph - a speed your old horse and gig could not keep up.

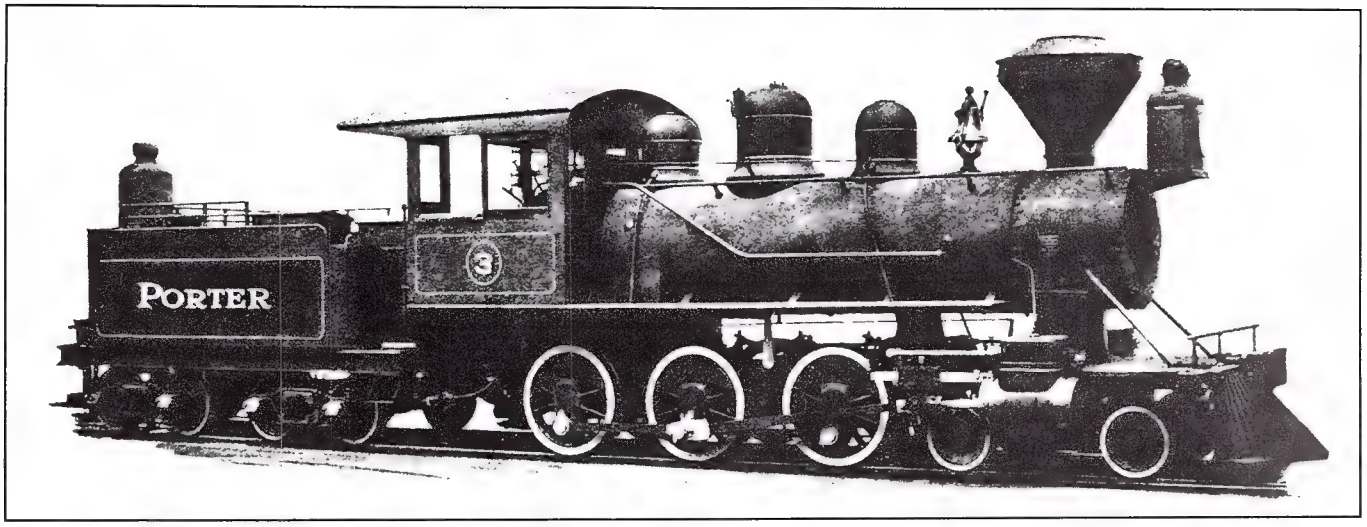
It seems the Cummer Lumber Company also operated a narrow gauge line used to mine phosphate. Don says the line was 3-foot gauge and sent in the Cummer Narrow Gauge Roster shown in Table 2.

As Don tells it:

> Phosphate was discovered in the Suwannee River area in 1890, a year after some had been found in Marion County. This created a fever to match that of the California gold rush of 1849. Prospectors and speculators were rushing to Ocala and Dunnellon and holes were being dug all over. Land was being bought and sold rapidly! Some local citizens got into the act and tried to do some mining, but they soon found out that it was more trouble than it was worth to them, so they sold out to a French concern.

It seems that the French firm built a 2-foot gauge railroad system around Luraville, Florida, that was operated by two small tank locomotives. Don sent the photo showing both of these locomotives with long strings of dump cars being loaded. Each engine had its own type of dump car. This operation did well in 1895 and 1896, but business became sporatic after that. The 2-foot line became a common carrier in an upsurge of traffic in 1914, but was junked by 1919.

Don's map shows that several light standard gauge lines were built in this part



This tiny 30-ton Porter 4-6-0 was built for the Cummer Lumber Company out of Jacksonville, Florida, and ran on 35-pound rail. *Photo, collection of Dick Andrews.*

TABLE 1
Standard Gauge Locomotive Roster of the Cummer Lumber Company of Jacksonville, Florida
(Data from Don Hensley)

Road Number	Type	Builder	Cylinder Dimensions (inches)	Notes
?	Heisler	Heisler	0x10	Sold 1907
4	Heisler	Heisler	11x10	Purchased 1906, sold 1907
7	2-4-0	Pittsburgh	?	Sold 1905
10	0-4-2T	Porter (2393-9/01)	12x18	Purchased 1905, sold 1907
16	0-4-4T	Rhode Island	12x18	Purchased 1907
19	0-4-4T	Rhode Island	11x16	Purchased 1907
21	2-6-0	Brooks	16x24	Purchased 1909, sold 1917
25	0-4-4T	Rhode Island	12x16	Purchased 1909, sold 1917
1	2-6-0	Porter (4845-3/11)	12x16	Bought new
2	4-6-0	Porter (5018-2/12)	13x18	Bought new
3	**4-6-0**	**Porter (5126-8/12)**	**13x18**	**Bought new**
4	2-6-2	Porter (5380-5/13)	12x16	Bought new
5	0-4-0	Porter (5584-12/13)	13x18	Bought new

TABLE 2
3-Foot Gauge Locomotive Roster of the Cummer Lumber Company (Newberry Phosphate Mines)
(Data from Don Hensley)

Road Number	Type	Builder	Builder's Number	Cylinder Dimensions (inches)	Notes
1	?	?	?	?	?
2	0-4-0T	Porter	1140	9x12	Purchased 1907 (built 3/90)
3	0-4-0T	Porter	4130	8x14	Purchased new 5/08
4	0-4-0T	Vulcan	1801	8x14	Purchased new 9/12
5	0-4-0T	Vulcan	1829	8x14	Purchased new 12/12
6	0-4-0T	Vulcan	2070	8x14	Purchased new 12/13

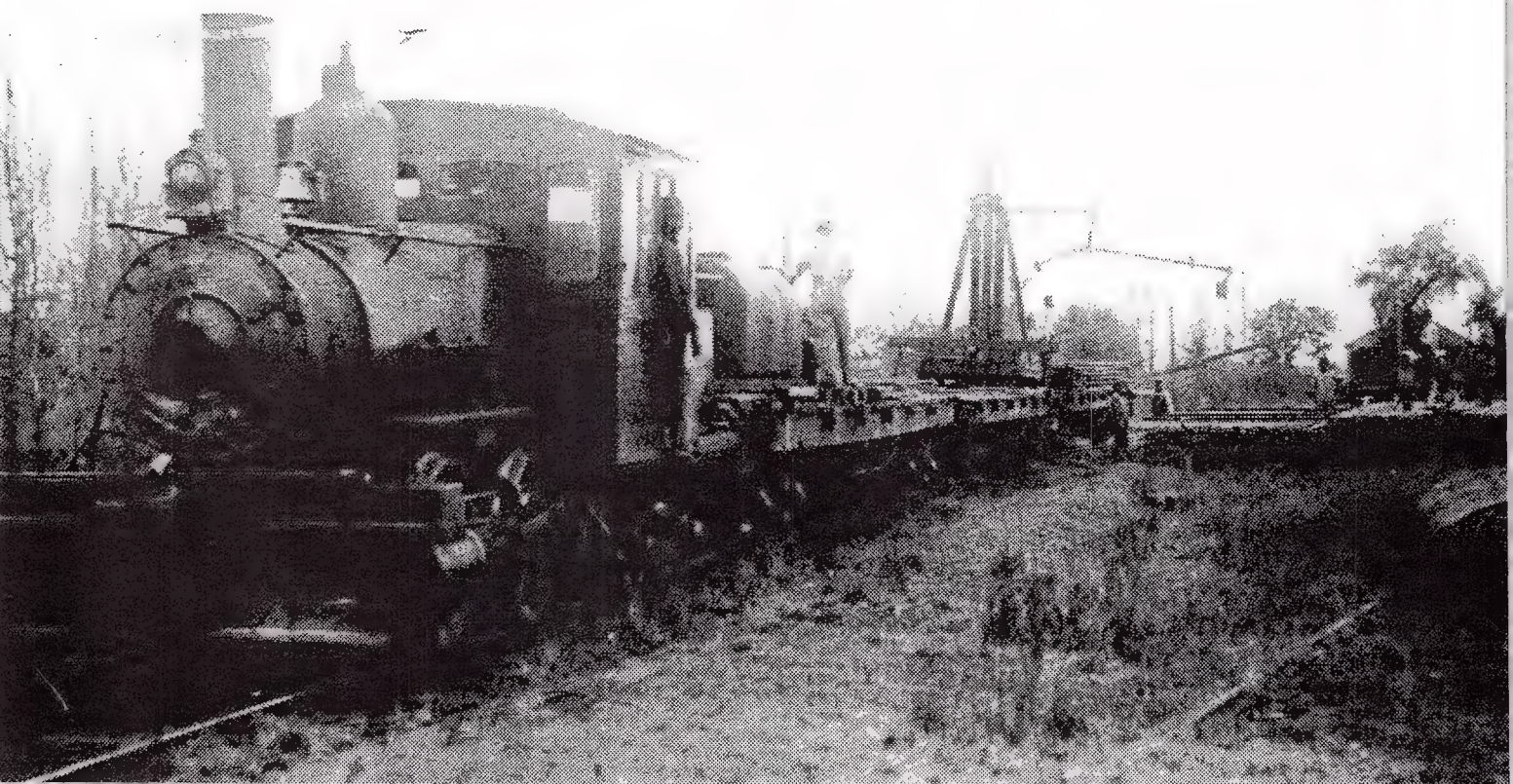
TABLE 3
3-Foot Gauge Porter 2-8-0's
(Data from John Taubeneck)

Owner	Location	Construction Number	Cylinder Dimensions (inches)	Date of Purchase
Jalapa RR and Power	Jalapa, Mexico	1900	16x20	10/98
Cia del F.C. Mineral de Chihuahua	Mexico	2028	12x16	10/99
Mitchell Bros.	**Cadillac, Mich.**	**2012**	**16x20**	**3/00**
J.E. Sexton, Palisade	Nevada	6515	14x18	6/20

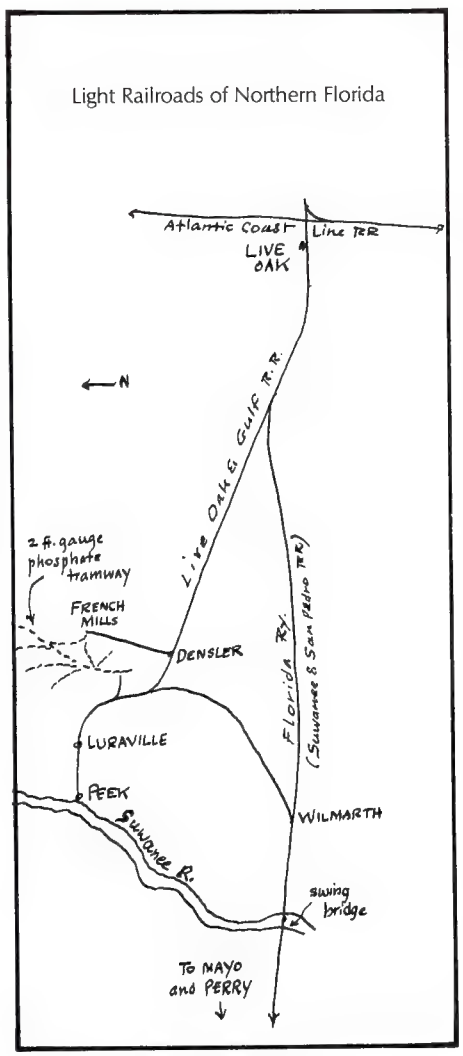
Phosphate mining near Luraville, Florida, as accomplished by 2-foot gauge. Each locomotive has its own type of dump car. *Photo, collection of Don Hensley.*

This delightful bit of steel lacework way down upon the Suwanee River in Florida was still standing as late as 1984. *Photo, collection of Don Hensley.*

This engine appears to be an ex-elevated railroad Forney and is being used to lift rail from rotted cedar ties on the Cummer Lumber Company line in Florida in 1919. *Photo, collection of Don Hensley.*



A Suwanee & San Pedro passenger train in 1903. The ex-narrow gauge car bodies aren't even wide enough to cast shadows on their new standard gauge trucks. *Photo, collection of Don Hensley.*



of Florida. The little standard gauge Florida Railway (Suwanee & San Pedro Railroad) had a delightful bridge across the Suwanee River. It was one of those spidery spans that go so well with 40-pound rail. It was a swing bridge with a "necklace" of wheels that rotated it open for river traffic. A model of this bridge would be a great way to turn a train 180 degrees around on a small model railroad with no other place to do it. As I look at this photo I expect to hear the whooshy little whistle of an *African Queen* coming around the bend, just as a tiny ten-wheeler would whistle for her claim to the line.

All of this opens the question of modeling such light standard gauge short lines. Model railroads built around small standard gauge short lines have not been common. Many years ago pioneer modeler, Jim Dechert, built such a pike with small locomotives. He used standard O gauge wheels and code 100 Midland rail. This rail had a fine web that was driven down into slots in the ties so that there were no spike heads to hit the over-size O gauge flanges. Nowadays you could use the Proto: 48 wheels and track standards with no trouble. These finescale wheels open the frontier of light railway modeling from the Civil War era to the early decades of the Twentieth Century.

John Taubeneck of Seattle, Washington, replied to my question in the January/February 1989 **GAZETTE** about which Michigan logging road had a Porter 2-8-0 by sending the information in Table 3 which lists the four 3-foot gauge logging lines that used Porter 2-8-0's. It is interesting that J.E. Sexton of Palisade, Nevada, was the famous manager of the Eureka, Nevada, narrow gauge, built as the 84-mile-long Eureka & Palisade, in 1876. It was eventually abandoned in 1938. Many thanks, John.

A number of narrow gauge lines, that were standard-gauged, kept their old passenger cars and locomotives, widened them out, and ran them. The Denver & Rio Grande did it, and you can plainly see that the little Florida lines did it in the photo of the Suwanee & San Pedro passenger car sent in by Don. The standard gauge trucks sides are not even in the shadow of the ex-narrow gauge car bodies riding on them, and note how light the rail on that track is.

Thanks to all of you who wrote in and especially to Don for his rare views of light railroading in Florida.

Dick

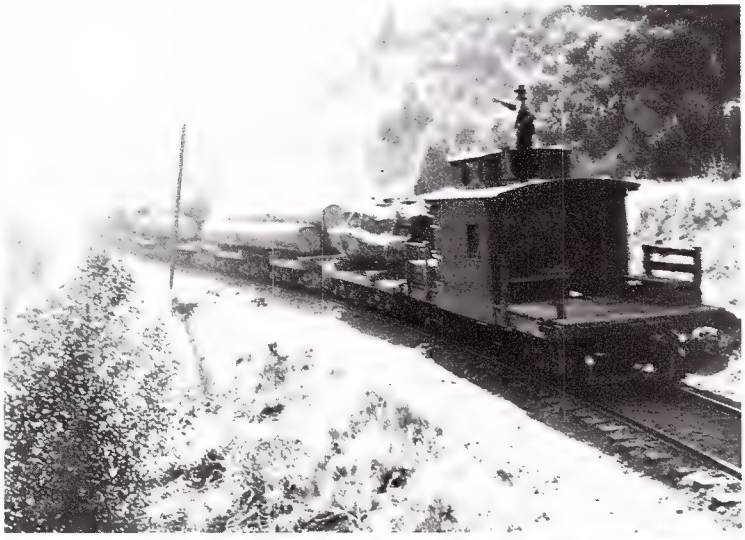
GAZETTE GALLERY

Edited by Gene Deimling

This close-up look of a Canadian Pacific trestle reveals the kind of detail needed to model such a structure. This particular bridge is located at Thalia, British Columbia, Canada, on the former Kettle Valley Line. *Photo by Harold P. Sandstrom.*

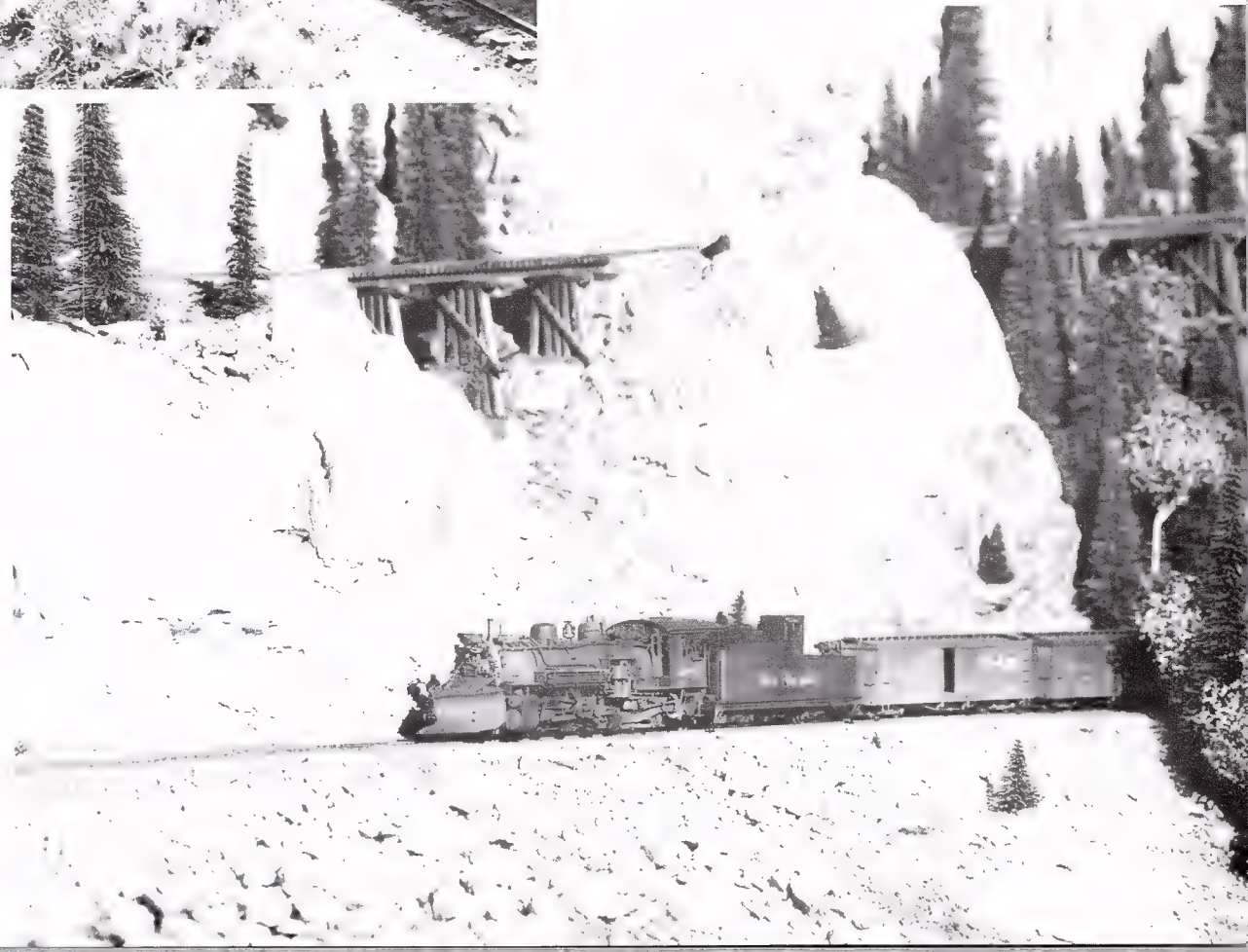
What the Southern Pacific Narrow Gauge lacked in scenery, it made up for in equipment. Ten-wheeler #18 had a strong SP "company" look about her, but still managed all of the charm of narrow gauge. Donald Duke took this classic photo at Laws, California, on October 6, 1949. *Photo, collection of Mallory Hope Ferrell.*

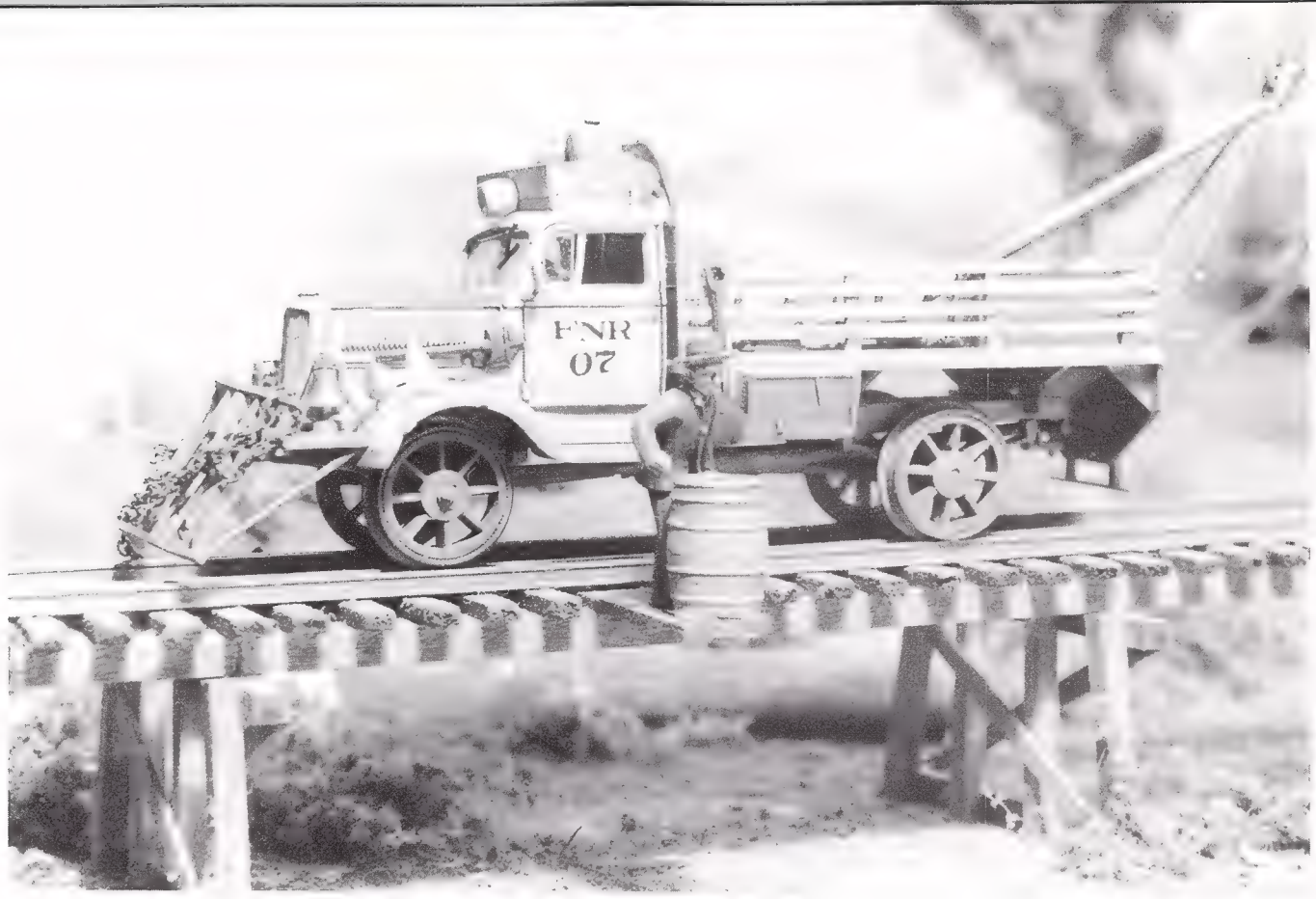
The winters were long and hard on the White Pass & Yukon Railroad, and required rotary snowplows such as this one to keep the line clear. The two locomotives behind the plow were #62, an inside-framed 4-6-0, and #61, an outside-framed 2-8-0. *Photo, collection of John C. Stutz, courtesy Douglas County Museum, Oregon.*



This photo was taken in 1909 and shows a Northwestern Pacific log train with an odd caboose. The train is southbound on the Sherwood Branch headed for Willits, California. *Photo, collection of Ted Wurm.*

Few model railroads have captured the feel of Colorado scenery like the old (now dismantled) Slim Gauge Guild layout in Pasadena, California. This photo shows the Rio Grande Southern area of the layout. The K-36 belonged to Mike Elkin. *Photo by Walter Stephen.*





GAZETTE author Bob Boudreau built this interesting rail truck for his HO gauge Fundy Northern. He started with a MPC 1:72 scale German Opel "Blitz" truck and added Model Die Casting wheels and a pilot made from brass wire. The roof details and the winch were made from odds and ends from his scrapbox. *Photo by Bob Boudreau.*

The look of early mountain railroading was captured in this HO scale diorama built by Richard Francaviglia. The locomotive is an extensively reworked Model Die Casting 2-8-0. (It took considerable work to back-date the engine to an 1850s 0-8-0.) *Photo by Richard Francaviglia.*

This old photo shows Austin City Railway #1 at Clifton, Nevada. The 3-foot gauge Austin City Railway ran some 2.80 miles between Clifton (where it interchanged with the 3-foot gauge Nevada Central Railroad) and Austin City, Nevada. This little Baldwin 0-4-2 started life as a conventional enclosed steam dummy, but lost much of her exterior superstructure in a wreck. Drawings of both versions of #1 by Gary Caviglia appear in the January/February 1989 **GAZETTE**. *Photo by Jas. H. Crockwell, collection of Kent Perry.*

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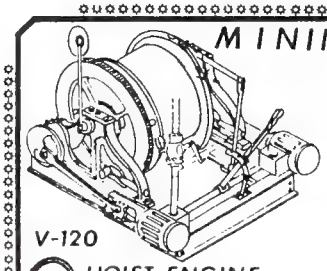

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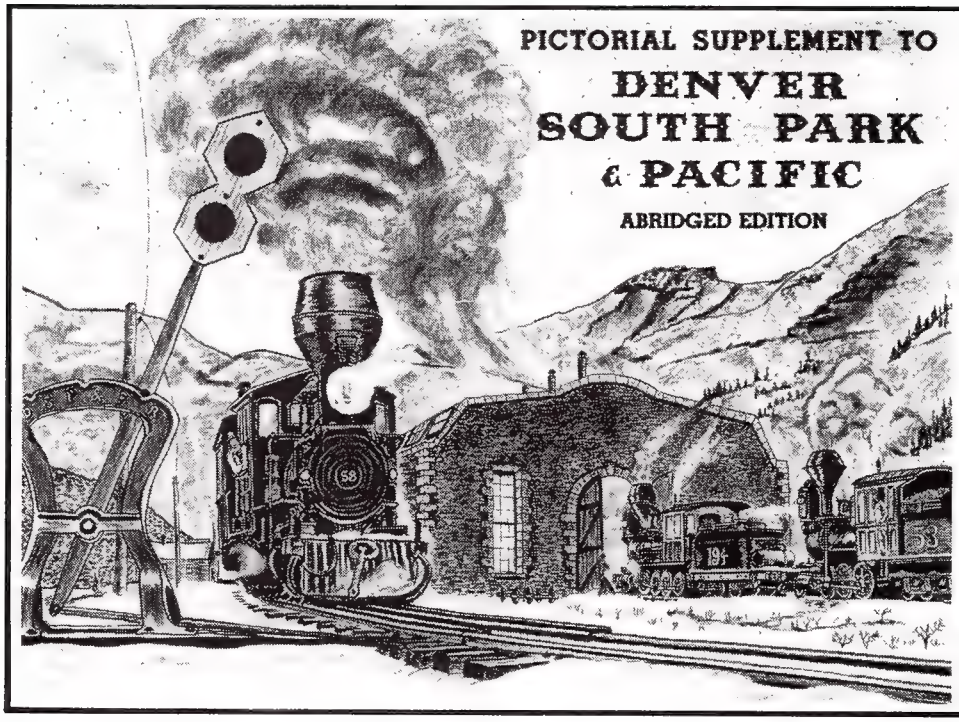

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BOOK REVIEWS

Index to Model Periodicals by Paul Cardwell, Jr., Hippogriff Publications, 111 E. 5th, Bonham, TX 75418, 1987. Softcover, 235 pages, $8.50 plus $1.25 in U.S.A. or $2.00 postage elsewhere.

Each year the *Index to Model Periodicals* indexes 55 model magazines worldwide, including the **GAZETTE** – the 1987 volume is now ready (1988 coming soon). Information in this computer-generated publication is listed under broad topics such as freight cars or steam locomotives, making it easy to use. *Bob Brown.*

Railway Steamships of Ontario by Dana Ashdown, the Boston Mills Press, 132 Main St., Erin, Ontario, NOB 1TO, Canada. Hardcover, illus., 288 pages, $29.95.

Don't miss this book if you like steamships and railroads mixed together. This book has hundreds of photos of the steamships used on the lakes and rivers of Ontario. It is divided into eight chapters covering early navigation, portage railways, river ferries, iron ore carriers, coal boats, large and small navigation companies, and the Lake Superior routes. There is a list of vessels used to ship railway cars, a bibliography, and a complete index. *Bob Brown.*

Narrow Gauge Data Book by Robert Sloan, NTRAK Publishing, 2424 Alturas Rd., Atascadero, CA 93422 (undated). Softcover, 66 pages, illus., $7.00 postpaid.

Several years ago Robert Sloan published several editions of his *Narrow Gauge Information and Lettering Guide* and his *Nn3 Manual.* Both of these books have now been up-dated and published in one volume as the *Narrow Gauge Data Book.* The printing and format of this new book are far nicer than the original books, and it is very complete. Starting with a directory of plans and lettering, and a Colorado narrow gauge color chart, it continues on with lists of information about different railroads – the Colorado & Southern, the Uintah Ry., South Pacific Coast, Carson & Colorado, and North Pacific Coast – to name a few. There are many small-scale plans for equipment including some for Denver & Rio Grande Western freight and passenger cars, cabooses, and locomotives, as well as plans for mines, depots, and bridges. The eastern lines are not forgotton in the sections on the East Broad Top, Ohio River & Western, and East Tennessee and Western North Carolina. This is a must purchase for any narrow gauge model railroader – don't miss it. *Bob Brown.*

The Diesel Builders, Fairbanks Morse and Lima-Hamilton, by John F. Kirkland, Interurbans Press, P.O. Box 6444, Glendale, CA 91205, 1985. Hardcover, illus., 112 pages, $24.95.

This book is definitely for the mainline modeler and Diesel fan. What caught my eye, however, were the chapters on the early days of Fairbanks-Morse and Lima-Hamilton. There are several illustrations of small railcars and scooters, and a really wonderful little gasoline locomotive. There are also many shots of early Diesels from the 1930s and 40s that might interest you. The book is divided into two sections – the first about Fairbanks-Morse and its history and locomotive production, and the second about Lima-Hamilton and its history and locomotive production. There is also a section about the Baldwin and Lima-Hamilton merger. The book ends with a list of locomotives built by these firms and a complete index. *Bob Brown.*

Civil War Railroads and Models by Edwin P. Alexander, The Fairfax Press, distributed by Crown Publishers, Inc., 225 Park Ave., South, New York, NY 10003 (by arrangement with Clarkson N. Potter Inc.), 1989. Hardcover, 256 pages, illus., $14.98.

This book by the late Edwin P. Alexander was originally published in 1977 by C.N. Potter. I found this reprint edition at my local Crown Book Store at the wonderful bargain price noted above. Edwin P. Alexander was a pioneer model railroader, and may have built the first HO gauge model railroad in America. I knew of Mr. Alexander through his many other books, on the Pennsylvania Railroad and on models, and I knew he was interested in Civil War railroads – but I had no idea that he actually built an O gauge Civil War era layout complete with mobile cannons and armored cars. His book about it is a delight to read – there are 17 chapters on such subjects as how to model Civil War era track, structures, bridges, locomotives, passenger and freight cars, armored cars, ordinance, and scenes worth modeling. The book is lavishly illustrated with prototype and model photos, including many plans for the models described. This book ties in nicely with Dick Andrew's comments on early light railroads in "Extra Narrow Gauge Junction" in this issue and shows how interesting these little lines were. *Bob Brown.*

VIDEO REVIEWS

The Georgetown Loop Railroad, Pruett Publishing Company, 2928 Pearl St., Boulder, CO 80301. Thirty minutes, narration, background music, $29.95.

Many of you have ridden the Georgetown Loop Railroad in Silver Plume, Colorado. This new tape traces the history of this interesting line. Starting with scenes of engine #40 being fired-up ready for work, dripping water and leaking steam, the tape flashes back and tells the history of the area, and the original Colorado & Southern line from Georgetown to Silver Plume. This history is told by narration, still photos, and present day scenes of Georgetown. There are several minutes of the only known film made of a train running over the Devil's Gate Viaduct. Made in 1904, the film was taken from one train following another across the famous bridge. As you would expect, the tourists on the train are all waving their handkerchiefs at the photographer. There are several interesting views of Georgetown as the train enters town. Souvenirs of the viaduct are described, including postcards, some silver spoons, and a teacup made in Germany with a picture of the viaduct. The tape then shifts to the efforts involved in rebuilding the railroad under the direction of West/Rail and the Colorado Historical Society. There are scenes of the Seabees working on the line and many shots of the new bridge being built. There are also some shots of West Side Shays #8 and #14 making the first steam crossing of the new viaduct on June 1, 1984. It seems that every time a new bridge was built on the line, the ex-Oahu Railway & Land Company Diesel was sent across first in case the bridge collapsed. The rest of the tape is a wonderful series of shots showing a ride on the Georgetown Loop Railroad. There are lots of aerial views and many shots from the cab of the locomotive. This is a well-done tape, which I thoroughly enjoyed. It brought the whole Georgetown Loop Railroad into perspective for me and I know you will also enjoy seeing it. *Bob Brown.*

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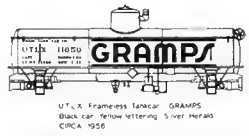

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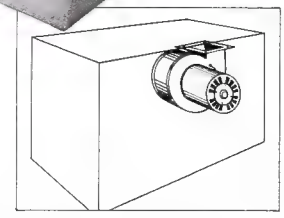

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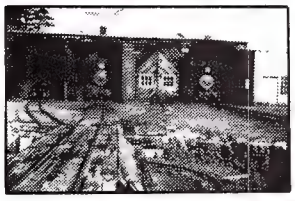

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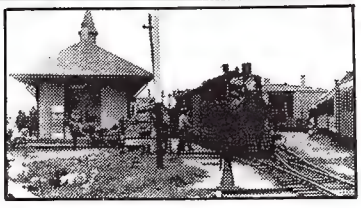

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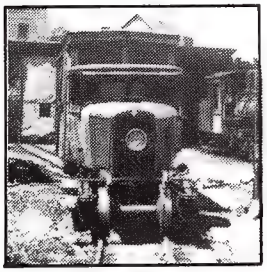

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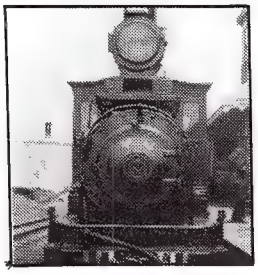

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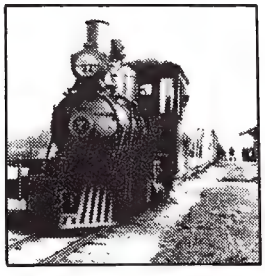

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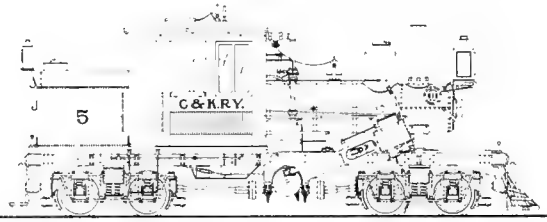

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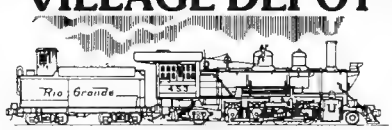

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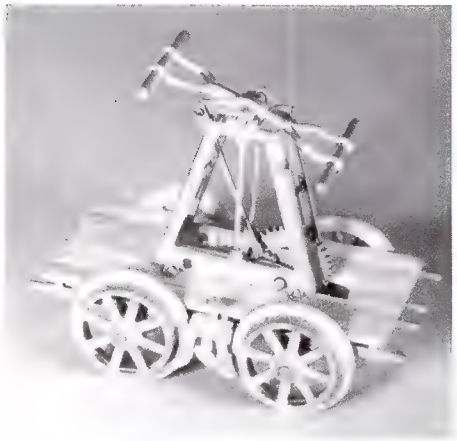

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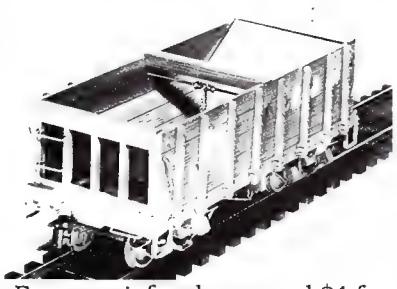

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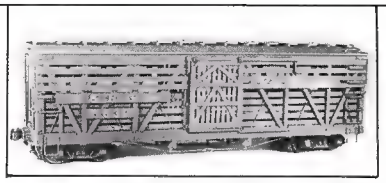

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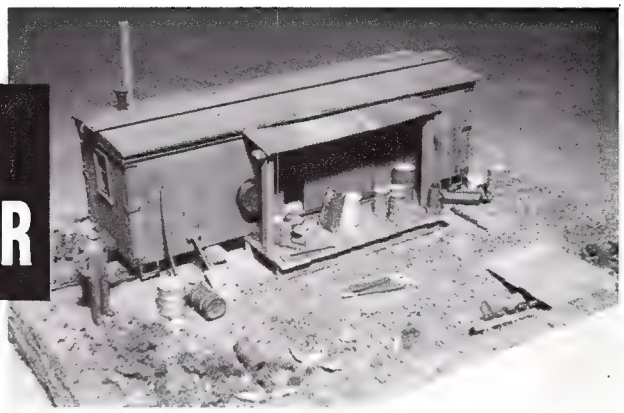

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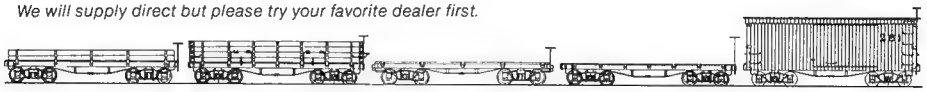

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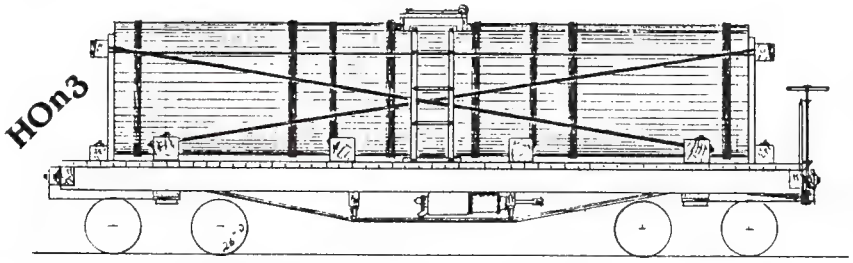

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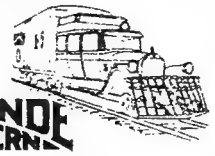

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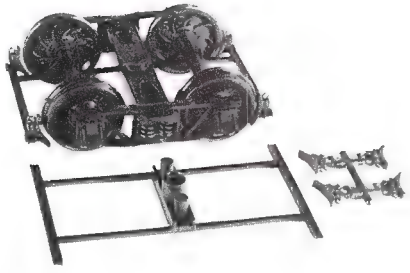

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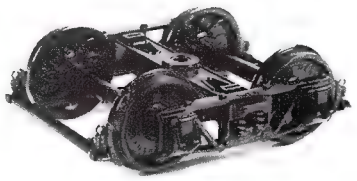

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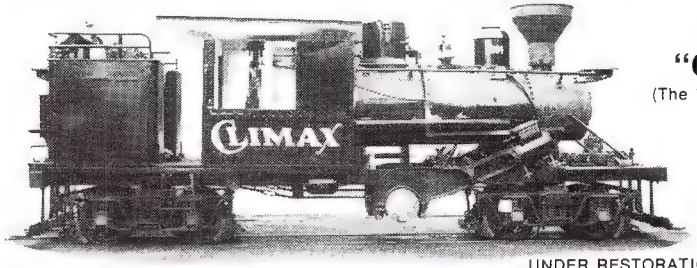

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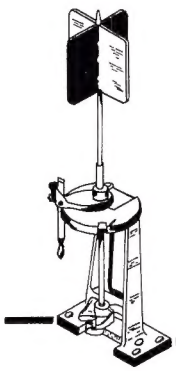

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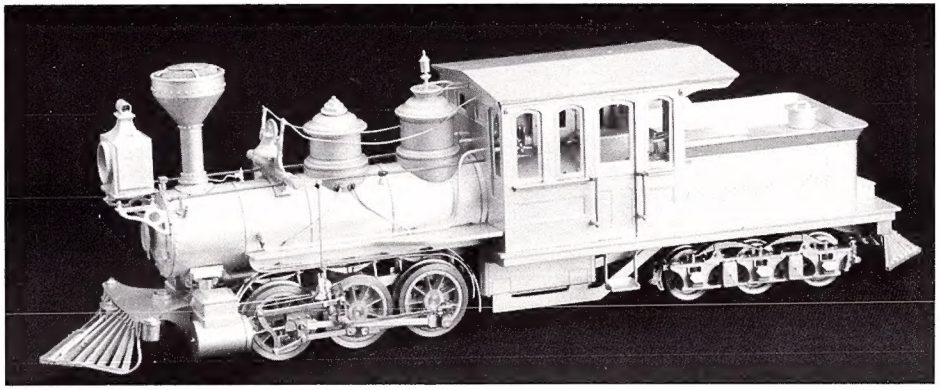

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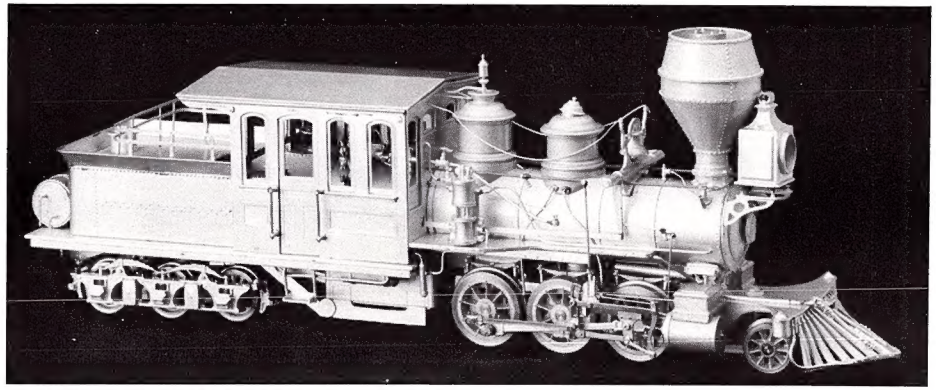

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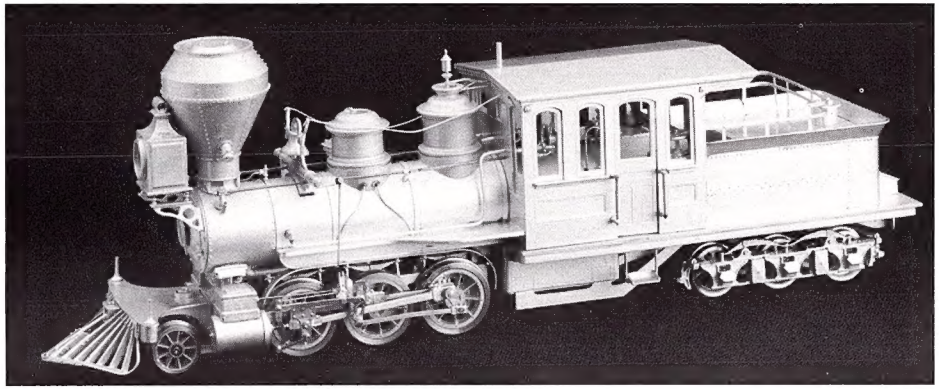

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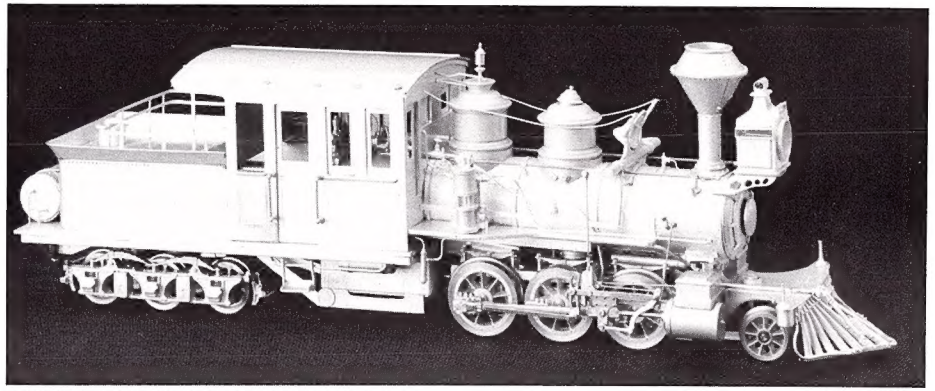

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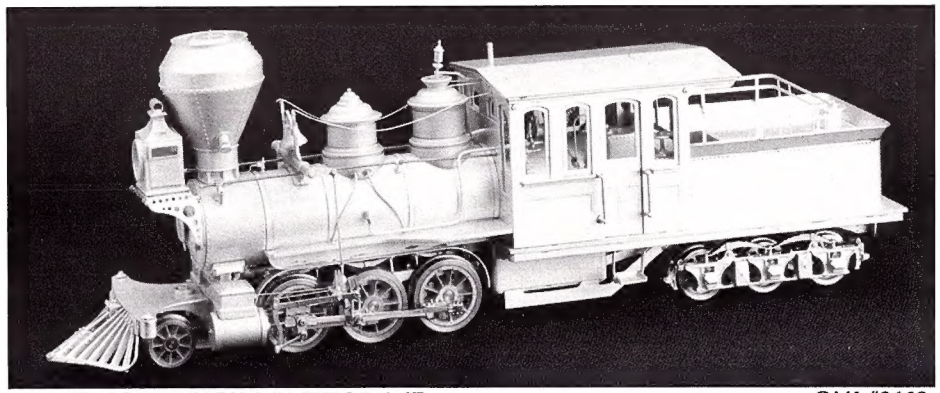

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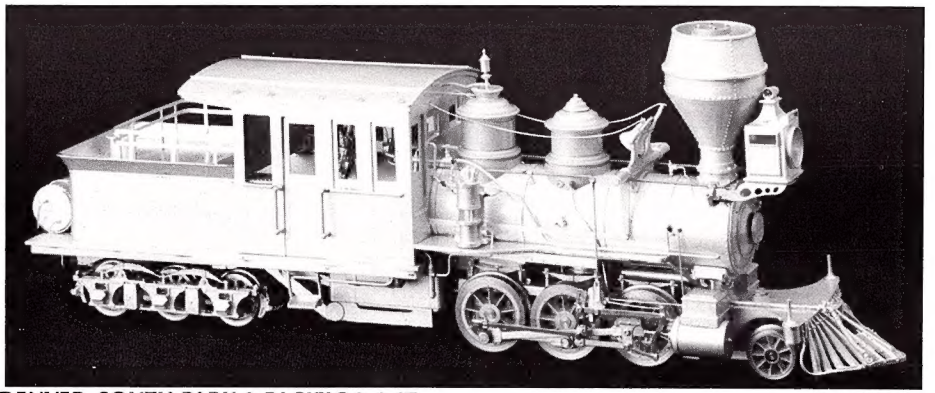

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